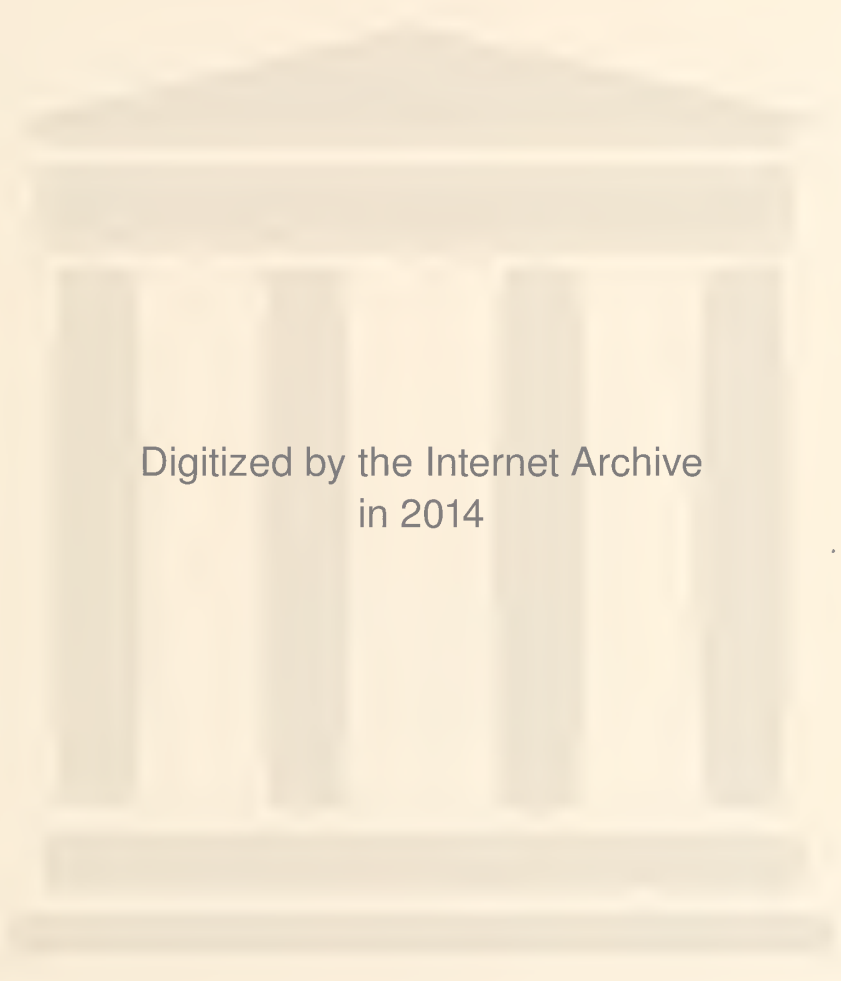




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EDITOR :

S. J. JONES, M. D., LL. D.



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NUMBER 1.

*THE CLINICAL USES OF ELECTRICITY.**

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I propose to spend this hour, ladies, in talking to you about the clinical uses of electricity. Through the kindness of Dr. McIntosh I am enabled to show you to-day the mechanical contrivances that are used for the purpose of treating patients by the various forms of electricity. There are three of these in use—the Faradic battery, the galvanic battery, and the static machine, giving us faradism, galvanism, and frictional electricity. I propose to show you these instruments and to tell you something about the clinical advantages which they present.

The first kind of electricity to which I invite your attention is the static, and I now show you this machine, the best one, I think, we have. (Fig. 1.) It is a modification of the German machine by one of our Chicago electricians, Mr. Atkinson, and is made by the McIntosh Battery and Optical Company. The current is made in part by the friction of metallic brushes on the metal discs on the revolving glass plate, and in part by induction from the stationary glass plate. The one I now show you is the 16 and 18 inch plate. By turning the handle the electricity is produced. This form of electricity is used in several ways:

first, by the method of electrization, and for that purpose we place the patient on an insulated stool and have her hold a wire connected with either the hoseline or negative Leyden jar. The positive current is the more tonic and sedative. The patient takes the electrode in the hand, this switch which you see here (pointing to switch) is thrown on, and the machine is started, and the patient is soon charged with electricity. Now, this may be termed an electric bath, for it has all the advantages of one. When we charge her with the electricity, her hair, you see, stands on end; you will find the pulse accelerated, the current escaping from every part of the body, gently stimulates the end organ, scatters everywhere throughout the skin and thereby promotes the action of this great emunctory. This improvement in the circulation and activity of the skin is accompanied with a general improvement of the nutritive processes, and after the daily use of the agent you will find your patient, as a rule, increasing in weight and in vigor.

This form of electricity is sedative. In no disease is this effect better shown than in chorea. Take a patient with the choreic movements and place her upon the insulated stool you will usually notice the movements cease as she becomes charged with the positive current—and marked remedial effect will often follow its continued use.

* A lecture delivered at the Woman's Medical College, Chicago, Nov. 2, 1888.

When we want to influence particular parts of the nervous system we can do so with this machine, by drawing off the electric sparks; that is, we can concentrate the electricity at various places and draw it off so as to produce pain by the use of a sharp-pointed, or better the spheroid, electrode. But should we desire to draw off (neutralize) the electricity without pain, but in such a manner that the patient may experience a certain sensation (the electric aura), the pointed electrode should be used, but held at such a distance that no spark will leap across the interval between the patient and electrode; it draws off the electricity from the person just as a lightning-rod draws electricity from the clouds. You can in this way concentrate the current upon the head, spine, or any other part of the body without pain, and produce a soothing and tranquilizing effect often very marked and thus relieve headache and pains elsewhere about the body.

In drawing off the current in this way the electrode must be connected with the ground or with the Leyden jar opposite the one connected with patient on insulated stool, and we have here, as you see, a hook for keeping the wire or cord from touching patients. In this way we can relieve disagreeable sensations in various parts of the body. Then we can with this machine give electrical massage. Passing the current over the body we get muscular contractions equal to those produced by the faradic current, and inasmuch as it increases the muscular contractions, it determines blood to the muscular structures, and promotes, as massage does, general nutrition. This we can do without removing the clothing.

We can also use what is known as the induced current in static electricity, that is the Leyden jars become charged with electricity on the inside. The current is induced on the outside, and this induced current passes from one jar to the other by means of this switch; by moving the rods

connecting with the jars so as to bring the balls near or far apart we can produce a current of greater or less intensity, and quite like the faradic. We connect the wires with the switch, place the electrodes over the muscles we desire to influence, and graduate the current as desirable and thus exercise the muscles as gently or as violently as we wish without removing the clothing.

This machine, like all other electrical appliances, requires a great deal of care and attention. It must be kept clean and dry. If the atmosphere is damp it does not work so well. The machine should be placed in a glass case, the air of which can be made dry by heat when necessary. The machine may thus be made to work well, but if the air is very damp you will find it sometimes difficult to charge your patient thoroughly, because damp air is a good conductor. Under such circumstances throw over them a rubber water-proof or macintosh, and you relieve the difficulty.

The galvanic current is another useful current in medicine. This form of electricity results from chemical action, and the galvanic battery consists essentially of two elements of different electrical potentiality and fluid that is a good conductor. (Fig. 2.) The battery before you is a McIntosh, one of the most convenient and simplest in construction I know of. It requires no mechanical ingenuity to keep such a battery in order. We have two elements, the carbon and zinc, and a fluid that is a combination of bichromate of potash, sulphuric acid, bisulphate of mercury and water. When the battery is at rest there is a space here where these elements are placed. If you desire to have the battery in action, you put the elements in the cells containing the fluid, and the current is at once established.

For increasing the current we have bifurcated cords, which I now show you. By means of these cords we can get the current we need without any shock. These

cells vary their current strength from day to day. Each day the current strength grows less, but slowly. The current strength also depends somewhat upon the care and attention you give the battery, so that in order to prescribe electricity scientifically we must have some measure of current strength. For this purpose, electricians have devised a method by which we can measure these currents, and this is certainly one of the greatest advances that has been made in the therapeutic use of electricity. I can give my patient in Chicago a particular strength of current; I can tell him what the strength of that current is, and if he should move from here to New York, the physician there can give him the same current there. The instrument for measuring the current strength is the milliamperè-meter. We have it on the table. We will adjust it so that our needle will be at zero, and charge the patient before you with electricity. The strength of current now passing is 40 milliamperès, so that if we want our patient to have that strength of current passing through a particular portion of her body, we can designate it by the milliamperè-meter.

One of the useful methods of applying galvanization is called general galvanization. This brings within the circuit all the important nerve centers, cerebral, spinal, and sympathetic. We will place the positive electrode over the forehead of the patient, while the negative electrode we will place at the nape of the neck. The current is now passing, being a little less than one milliamperè. We allow the current to pass in this way for about five minutes. The current should never be interrupted while it is passing through the head. The administration of electricity to the head must be conducted at all times with the utmost care; the current should be mild so that the patient can just feel it. She is now getting one milliamperè and a half through the head. When we take

the electricity off the head, the current should be reduced so as not to produce any shock to the patient. If the rheostat is in the circuit with the patient, then you can graduate the current in the minutest sort of way.

The next step in the process of general galvanization is to put the positive electrode at the nape of the neck, and the negative in front and under the inner border of the sterno-cleido mastoideus muscle. There is now three-quarters of a milliamperè passing through the neck. This is a very mild current, and one she appreciates.

We next pass the current through the sympathetic nervous system and through the spinal cord. To do this, we put the negative electrode over the epigastrium, which brings within the current the sympathetic nervous system as well as the spinal cord, and the positive electrode over the spinal cord, and we will increase the current until it is appreciated by the patient. Eight milliamperès of current are now passing from the epigastrium to the spinal cord. This séance of general galvanization should occupy about 15 minutes. Its effects upon the nervous system are alterative, tonic, and sedative, and this kind of electricity administered with care is not at all disagreeable to patients. If the current be interrupted, the patient will have experienced shock, which should be avoided.

We may compare the galvanic electricity to a great river like the Mississippi, that flows along so smoothly and so silently that it seems to possess but little power until we attempt to arrest it; then its might is strongly manifested. But faradic electricity, like the little mountain stream, makes a good deal of noise, and seems to have a great deal of force, yet the damage it can do is comparatively slight.

Another important use for galvanic electricity is in cases of paralysis in order to produce muscular movements, and to do

that we must interrupt the current. In cases of paralysis in which we desire to produce muscular movements, we may use the faradic current, or the induced current of the frictional machine, or the interrupted galvanic current. If the muscles have undergone a certain amount of degeneration they will not contract under the influence of the first or second but may under the third; and when we are treating paralyzed muscles we must use, if we desire to benefit the patient, a current that will produce these contractions. If the faradic current does not produce muscular contractions, then we use the interrupted galvanic current, and the current we use under these circumstances is the least current that will produce the contractions. If we have a paralyzed arm, for example, and the faradic current or the induced current of the static machine will not produce the necessary contractions, we place the negative electrode of the galvanic current over motor points of the muscle, and interrupt the current; then we have muscular contractions.

Every now and then patients will be brought to you with infantile paralysis, and you say you must use electricity. The mother will say, "We have been using electricity for months without any benefit." You investigate and find she is using the faradic battery. You test the muscles, and there is not the slightest response to the faradic current; consequently months of valuable time have been thrown away by using an agent powerless for any good. This is a common occurrence in my experience. You take such cases and apply the interrupted galvanic current, and you will find it may require a powerful current to get the feeblest sort of muscular contraction. If you give such a patient the electricity daily you will notice that gradually a less and less current is necessary, and that probably after a while the faradic current will produce muscular contractions, and then you can

continue the treatment with the faradic current. What is true of infantile paralysis is also true of other paralyses; you must always use a current that will produce contraction, and if no current will produce the result then the case is hopeless.

Galvanic electricity has another important use in medicine; it may be used for illuminating purposes in the examination of the cavities of the body, and by this electric illuminator we can do this much more satisfactorily than by any other means. This is an electric light illuminator devised by Dr. McIntosh for clinical purposes. Suppose we want to look at this patient's throat, we can illuminate the cavity of the mouth. If we want to look into the nose, vagina, rectum, etc., we can illuminate these cavities successfully by this electric illuminator.

I next invite your attention to the faradic battery. The faradic current is dependent primarily upon chemical action going on the same as in the other battery. This inducing current under modification passes through a coil of 150 feet of wire that interrupts it about 10,000 times per minute. The modification thus produced in the current gives it much increased effect upon sensory end organs and undegenerated muscular tissue. The faradic battery gives two currents, primary and secondary. The primary is produced as above; the secondary is induced in a coil of wire in close proximity to the first coil, and differs from the primary current in having no polarity, that is with each 10,000 interruption the polarity of the electrode changes, now positive, now negative. It also differs in its more irritating effect upon the sensory and motor nerves, producing mechanical effect when the primary fails.

The galvanic current passes through the patient's body with only a sensation of warmth, unless too strong a current be used. This faradic current, on the con-

trary, produces a marked irritating effect upon the sensory and motor nervous system. Where the sensory system is in a condition of anæsthesia, for example, the effects of this current are much more advantageous than the other. By passing a dry electrode, such as this faradic brush, over the skin, you stimulate the peripheral ends of the sensory and motor nerves, and in that way may stimulate the centers in the brain and spinal cord by reflex action, and benefit the whole organization.

In locomotor ataxia, in anæsthesia, and in neurasthenia the faradic brush is often of therapeutic value. The faradic current is also used in cases of paralysis in which the muscles will respond. Here its value is as great as the galvanic, and the convenience of its administration is much greater.

In using the galvano-faradic currents we often have occasion to use a rheostat. It is a very important addition in the use of electricity. It enables you to graduate the current with a surprising degree of fineness and exactness. You have some patients who are exceedingly sensitive to the electric current, consequently it must be carefully graduated. This rheostat consists of a glass jar containing water, with three metallic plates, one of which moves up and down between the other two, and in that way increasing and diminishing the resistance to the current. We will gradually increase resistance, making the current so exceedingly slight that it can scarcely be felt by the patient, and then by very gradually, almost imperceptibly, decreasing it, we can often use a current of greater strength than we could otherwise use, and on the most sensitive patient.

Here is a box of electrodes so shaped as to suit various parts of the body, such as the urethra, uterus, vagina, rectum, ear, tongue, etc. Here is an abdominal one, adapted for the treatment of congestions and chronic inflammations of the uterus and its annexa. The treatment of uterine

tumors by electricity is becoming a matter of very considerable importance. The electrode which you see is made of animal membrane, very pliable, and is intended to fit upon the surface of the abdomen.

To succeed in the practice of medicine in the neurological department you must study carefully the use of these various forms of electricity and the care of these various applications.

EXTRACTS AND ABSTRACTS.

Illumination of the Larynx and other Body Cavities by Transmitted Light.—At the meeting of the Medical Section of the SCHLESISCHEN GESELLSCHAFT FÜR VATERLANDISCHE CULTUR, at Breslau, October 26th and November 9th, Professor Voltolini read a paper upon this subject. We make a few extracts from the report in the *Wiener Med. Wochenschr.*, Nos. 47, 48, 49, of this year:

"I not only hope but am convinced that this new method of examination, which I present to-day, will sooner or later come into common use, and will be of great service in distinguishing benign from malignant growths in the larynx, and will also be of value in physiological investigations.

"This new method consists in the illumination of the larynx—and other body cavities—by transmitted light. In the larynx the light is directed through the tissues of the neck, while the laryngoscopic mirror is passed into the unilluminated pharynx.

"By this means not only are the separate parts of the larynx illuminated and visible as by the usual method, but the whole larynx is illuminated through and through. Everything can be examined. The vocal cords are perfectly transparent and the slightest abnormality upon the surface or within the tissue can be readily seen. In one sense it is possible to examine the tissues in the living body as with a microscope—since often in microscopic examination the main object is to see into the

tissues by means of transmitted light. . . . As above stated this method is especially valuable for the recognition and differentiation of benign and malignant growths in the larynx.

"Growths frequently occur in the ventricles of Morgagni; these cannot be recognized by the usual laryngoscopic methods until they protrude from the ventricles; by means of transmitted light they can be seen when still entirely within the ventricle.

"At the present time Waldeyer's views upon new growths are generally accepted, viz: that in cancer epithelial prolongations grow into the underlying tissue,—briefly, that in malignant tumors the growth extends into the healthy tissues, while in benign tumors the growth is outwards. I have not now a case of cancer of the larynx under observation, but have several cases of benign polypoid growths upon the vocal cords, and I can assure you that the vocal bands appear clear and transparent and the polypi grow outward from the mucous membrane into the lumen of the larynx.

"The illumination of the larynx by transmitted light was first suggested and tried by Czermak, the inventor of the laryngoscope, and endorsed by Gerhardt and Stoerk. Czermak said (*'Der Kehlkopfspeigel,'* 2d edition, Leipsic, 1863, p. 31): 'I believe that in this method of illumination I have discovered a means of observing changes in the vertical thickness of the vocal cords, both physiological (register of the voice) and pathological, and that it will be a means of examining the deeper tissues directly. The usefulness of this method in rhinoscopy is very limited.'

"In reference to the last sentence I wish to say that the method proposed by me is of very great service in rhinoscopy.

"Soon after Czermak's publication Semeleder discouraged further studies in this direction. In *'Die Laryngoskopie,'* Vienna, 1863, p. 25, he says: 'This method of illumination seems very plausible, but I do not think it is capable of practical applica-

tion; for in cases where the examination of the air passages is easy, a much better view is obtained by reflected light, and in cases where obstructions are present it will be fully as difficult to obtain a reflected image of the parts illuminated by transmitted light as by reflected light. Moreover, transmitted light is never sufficiently intense to afford a satisfactory view of the details.'

"Semeleder seems to have misunderstood the principle involved—and not to have tried the method himself; for illumination from above does not give the same definition as that given by transmitted light—just as under the microscope reflected and transmitted light give entirely different images, the one showing us only the surface, the other the structure within the tissue. Further, it is often possible, with transmitted light to obtain a good image of a larynx where it would be impossible to see anything by reflected light. The author demonstrated this point in the case of a boy with enormously enlarged tonsils. A good view of the larynx was obtained though the tonsils nearly hid the mirror—just as any cavity lighted from within can be fully viewed through an opening much too small to admit sufficient light for its illumination. Since Semeleder's publication, his method has scarcely been mentioned by any writer upon laryngology, although Professor Voltolini has regularly demonstrated it to his students.

"Heretofore the use of sunlight only has been practicable for this purpose, and this is the chief reason why the method has not grown in favor. For the sun is not always shining, and we are limited in our opportunities for making examination. Moreover, direct sunlight is not sufficiently intense; it must be concentrated upon the bared skin of the neck at the risk of burning it. The difficulties in manipulation are also considerable: The light must be directed upon different sides of the throat successively; any movement during the

examination on the part of the patient or of the condensing mirror leaves the larynx dark. The position of the patient, with the mouth open and the chin depressed, is a further disadvantage, and if the patient wears a chin beard, and if in addition to this it is necessary to draw the tongue forward, holding it with a napkin, the obstacles are multiplied, and great expertness is needed to obviate them.

"With the discovery of the incandescent lamp by Edison, this method of illumination has taken a different form. We have now an adequate light that can be used at any time, and upon all patients.

"The lamp for this purpose is prepared as follows: The back of the lamp is silvered to serve as a reflector. A small shoemaker's globe, filled with cold water, is adjusted in front of the lamp and serves the double purpose of concentrating the light and cutting off the heat. The lamp and ball are held in a metal case. For use it is adjustable upon the neck, and the observer is free to make any manipulation or to put the patient in any position he desires."

In a case demonstrated before the society, the whole larynx was perfectly illuminated, and the pharynx even, was partially illuminated from top to bottom.

A smaller lamp that can be held in the mouth, is used for illuminating the tissues and bones of the face. It is described more fully in the author's work on "Diseases of the Nose," just published.

Professor Voltolini uses three styles of lamps; a large one, 4 cm. in diameter, arranged as above described, for illuminating the larynx; one of medium size, to be held in the mouth, for illuminating the face; and a small lamp for introduction into the naso-pharyngeal space. He predicts that this method of illumination will be used in examining other cavities of the body, and mentions particularly the stomach and the uterus.

F. S. J.

Curability of Cancerous Disease.—Dr. EDWARD VON MEYER has a contribution to this subject in *Deutsche Zeitschrift für Chirurgie*, Bd. 28, Hft. 1 and 2.

Taking all the cases that show a definite duration of cure, 22, it is seen that carcinoma affected 11 cases, or 50 per cent., sarcoma 7 cases, cysto-sarcoma 2 cases, and melano-sarcoma and mixed tumor 1 case each. Of the cured cases of carcinoma there were: 1 case of carcinoma mammae, 3 cases of genital carcinoma, 2 of nasal, 2 of labial, and 1 each of inferior maxillary, trunk, and extremity carcinoma.

The cases of cured sarcoma were: 1 of the genital apparatus, 1 of the nose, 2 of the lower jaw, and 1 each of the trunk, extremities, and head.

The 2 cases of cured cysto-sarcoma were of the mamma and lower jaw.

The longest duration of cure was in the cases of sarcoma, cysto-sarcoma, and fibro-sarcoma. Of the cases of carcinoma, 7 showed a duration of cure of more than 3 years, and 4 a cure of less than 3 years before the occurrence of death from other causes. In none of these cases were the neighboring lymphatics implicated. None of these cases had recurrence. In one case only, a spindle-celled sarcoma of the thigh, was it necessary to operate after 3 years for recurrence in the mammary gland.

Following is a résumé of all the cases mentioned: Of the 64 cases, 47 were carcinoma, 11 sarcoma, 3 cysto-sarcoma, 1 each of melano-sarcoma, fibro-sarcoma, and carcinoma-sarcomatodes. Of these, 41 were cured of the cancerous diseases, 22 being still living, and 19 have died of other affections. Of the patients now living, 7 have lived from 17 years 7 months, to 20 years 3 months; 2 are living after 17 years 4 months; 5 after 15 years to 17 years 3 months; and 8 from 9 years 7 months to 13 years 7 months. Only 1 person has lived less than 10 years 5 months. Of the 19 that have died without recurrence, 6 lived 10 years or more; 6 from 6 years 5

months to 8 years; 5 from 2 years to $4\frac{1}{2}$ years; and 2 as much as $1\frac{1}{2}$ years.

The nature of the tumors in those still living has been given. Of the 19 that died free of recurrence, 14 had carcinoma, 3 sarcoma, and 1 each cysto-sarcoma and fibro-sarcoma.

The regions affected by the tumors were as follows: *Carcinoma*: of the mamma 4, nose 6, lip 5, lower jaw and trunk 1 each, extremities 2, genital apparatus 5, head 1. *Sarcoma*: 1 each of the mamma, nose, trunk, genitals, head, and upper jaw; and 2 each of the lower jaw and extremities. *Cysto-sarcoma*: mamma 2, lower jaw 1. *Melano-sarcoma*: 1 of trunk. *Carcinoma-sarcomatodes*: 1 of extremities. *Fibro-sarcoma*: 1 of head.

The regional lymphatics were involved in 2 cases of carcinoma and 2 of sarcoma.

Removal of recurrence after removal of primary tumors (37 cases): 1 recurrence in 1 case (melano-sarcoma of inguinal glands); 2 recurrences in 1 case (carcinoma of the lip); 3 in 1 case (cysto-sarcoma of lower jaw); 4 recurrences in 1 case (sarcoma of lower jaw).

Of the 18 that died of cancerous disease, 9 died of local recurrence; 4 of metastasis; 3 of metastasis and local recurrence; 2 of impossibility of operation.

Recurrence of carcinoma took place as follows: nose, lower lip and cheek, mamma, forehead, lower jaw, 1 case each; upper jaw, 2 cases. Sarcoma recurred in one case on the mamma.

Metastasis affected the liver in three cases, after carcinoma of the leg, mamma, and maxilla; the stomach in one case, after carcinoma of the lower lip.

Metastasis and local recurrence took place in 2 cases of carcinoma mammae, the metastasis being to the abdomen and leg, and to the liver; and in 1 case of perineal carcinoma, the metastasis being to the glands.

Recurrence took place usually within a year, in 1 case only later than 2 years.

The inoperable case was one of cesophageal carcinoma.

The duration of life of those that died of recurrence or metastasis was $11\frac{1}{2}$ years in 1 case; $10\frac{1}{2}$ in 1; $5\frac{3}{4}$ in 1; 5 in 1; $1\frac{1}{2}$ in 2; and $1\frac{1}{4}$, 1, 8 months and 3 months in 1 case each.

Meyer has no doubt that the results would show still better had it been possible to follow up the private cases, of which a large number must be free of recurrence.

Curative Erysipelas.—For some time erysipelas has been known to have a modifying or curative influence on chronic skin diseases. SCHWIMMER has seen variable results in cases of syphilitic disease of the skin. Sometimes the erysipelas causes the secondary symptoms to disappear for a time, and sometimes it permanently cures grave syphilitic affections, such as serpinginous syphilides. Schwimmer has had a case in which eczema of the face and tumefaction of the cervical glands were cured by an attack of erysipelas. In another case an orchio-epididymitis, which had remained obstinate for some time, passed away suddenly during an attack of facial erysipelas. In still another case keloid growths, developed in the cicatrices of burns, were removed by erysipelas.—*Archives Générales de Médecine*, Dec., 1888.

Faradism in Hysteria and Epilepsy.—DR. A. DIDIER, in an article on the use of faradization as a means of arresting hysterical attacks and of diagnosing between hysteria and epilepsy, draws the following conclusions:

1. Faradization is the best means of arresting or preventing an hysterical attack. It will abort cases of convulsive hysteria and some cases of hystero-epilepsy.

2. In difficult cases this method of electrization enables one to distinguish between an epileptic and a person with an attack of hysteria, or a case of epileptic-

form hysteria, or the convulsive hysteria of Charcot; the faradization has no influence on the epileptic attack.

3. In case of a person attacked by epilepsy and hysteria at the same time, the hysterical symptoms will disappear under faradization.

4. The method of using this kind of electrization consists in applying the electrodes of a faradic current of medium intensity along the path of the aura, that is, in the epigastric space and to the anterior portion of the neck, at the beginning of the attack. When the patient is not seen until the tonic or clonic period, one electrode should be placed on the neck and the other in one hand; or both electrodes may be placed in the hands.

5. Besides its abortive effects on the hysterical crisis, faradization has a curative effect, as has been known for some time.—*Lyon Médical*, No. 49, 1888.

Surgical Treatment of Suppurating Venereal Buboës.—In the *Vierteljahreschrift für Dermatologie und Syphiligraphie*, Heft 2, 1888, is a paper giving FLEISCHER and SZADEK's results of the treatment of suppurating buboes in the Military Hospital at Kiew, according to the method of Fleischer, introduced in 1880.

The total number of cases of bubo treated was 274, occurring in 1,084 cases of soft chancre treated in 1882-86. These figures seem to show that bubo develops in about one case in four of soft chancre, but Szadek says that it is not the extent of the chancre, but its seat and virulence that determine the inflammation of the glands. The bubo formed sometimes when the sore was healing, and in some cases even after cicatrization. Most frequently complicated with bubo were sores of the frænum and on the inner surface of the prepuce, and the majority of these buboes suppurated. Rarely was the suppuration limited to a single gland in these cases, and in almost all the abscesses several glands were in-

volved, and soon became connected with the original opening by sinuses.

In 105 cases the bubo was situated in the right groin, in the left in 131, and both groins were affected in 38 cases. In the majority of cases of double bubo the chancre was on the frænum.

After the development of adenitis the chancre healed quickly. In most cases the bubo appeared three or four weeks after the chancre, but in some cases it did not appear until two weeks after the chancre had healed. From the beginning to the opening of the bubo in healthy persons was as a rule from two three weeks; but in anæmic, scrofulous, and tuberculous patients it was as long as from four to eight weeks.

The treatment of these cases was conducted on the following plan: In the earlier stage, so long as there was no fluctuation or redness of the skin, the only means used was rest and avoidance of all inguinal irritation, with antiseptic treatment of the chancre. If the skin was red, but fluctuation was not present over the whole swelling, hot compresses steeped in carbolic lotion were applied till uniform and complete suppuration occurred. Attempts were made in many cases to cause absorption of the bubo, as by painting it with tincture of iodine; but these attempts all failed, the only result being some relief to pain and a longer course of the abscess. When fluctuation was complete, the hair was removed, the skin thoroughly cleansed with soap, followed by the application of a 5 per cent. solution of carbolic acid, or a 1 per cent. solution of corrosive sublimate. Then an incision, corresponding with the length of the bubo, was usually made parallel to Poupart's ligament, the pus was evacuated, any existing sinuses laid open with scissors, and all swollen glands removed by means of the fingers or sharp spoon, the capsule of the gland being incised when necessary. Lastly, all destroyed portions of skin were removed by

means of the scissors. The abscess-cavity was now washed out with corrosive sublimate solution, powdered with iodoform or iodoform and alum, and filled with iodoform gauze. Over this was a dressing composed of layers of gauze or wool impregnated with sublimate and salicylic wool was applied, and then a ball of jute or tow, and the whole covered with a piece of macintosh or varnished paper, and secured by a spica bandage. This dressing was generally left for from two to five days, when the wound was simply dressed with iodoform, the second dressing being left until oozing appeared at the edges.

The wound usually healed under from two to five dressings, the average duration being 30 days. No burrowing nor formation of pus occurred, and in no case did the buboes become chancreous. Erysipelas occurred in 5 cases, and eczema in the neighborhood of the wound 12 times; 26 suppurating syphilitic buboes were opened, and healed without scraping or removal of glands; 12 cases of tuberculous adenitis of the groin were treated by removal of glands, scraping, and application of iodoform. There were no cases of iodoform poisoning.

Dyspeptic Dyspnœa.—DR. W. H. KATZENBACH says that dyspeptic dyspnœa is characterized by a sense of weight or oppression across the chest, an almost constant desire to draw a long breath, and a feeling that the air does not enter the lungs to a sufficient depth. Repeated inspiratory efforts are made. The body is fixed in some certain position, or a sudden quick change of position is made before a satisfactory inspiration is obtained, but the relief is of short duration, and these efforts must be soon repeated. Diversion, intense occupation, or active bodily exercise, such as rapid walking, sometimes mitigates or relieves the attack. None of these ever aggravates it. Dyspeptic dyspnœa occurs after meals, in the intervals of stomach digestion, and

not infrequently at night. The duration of the attacks is variable, but they usually extend over a considerable portion of the day or night. They usually recur daily, or at intervals of a few days, for weeks or months, or there may be but a single attack.

There is a more alarming form of dyspeptic dyspnœa, the paroxysms of which occur at night only. Patients complain of severe attacks of shortness of breath, of smothering coming on at night, and unaccompanied by wheezing, as in asthma. The paroxysm usually occurs after the patient has gone to bed. He is awakened with a feeling of oppression and weight across the chest, a distressing sense of suffocation, and inability to get his breath. He sits up in bed, and makes strong efforts to inspire, but the air does not seem to enter his lungs. No position gives comfort. Becoming excited, his heart beats rapidly, and this increases his distress and discomfort. The respiration is slow, irregular and sighing. The expression is one of great suffering. The face is pale, the surface cool, and perspiration may appear on the forehead only, or upon the whole body. The heart's action is usually rapid and irregular; it may be slow and regular.

The attack lasts from half an hour to an hour or more. It subsides gradually, and the patient falls asleep, but he may be awakened by another before morning. The attacks may recur several successive nights, or at longer intervals over a considerable period.

The ordinary mild form of dyspeptic dyspnœa is to be distinguished from the dyspnœa of anæmia, chlorosis, or hysteria. In anæmia the breathing is rapid while the individual is quiet, though he may not be conscious of it, but it is still more rapid, labored and suffocative from effort or excitement. The more severe and nocturnal form of dyspeptic dyspnœa is to be distinguished from that occurring in uræmia. In the latter the difficulty of breathing is very distressing, but the patient is less ex-

cited. He gasps for breath quietly, but with great effort. Here, also, are symptoms of organic disease. In bronchial asthma the dyspnoea is expiratory, the breathing is audible at a distance, and signs of bronchial spasm are obtained by auscultation. In the dyspnoea from cardiac disease the respiration is panting, and cyanosis and anasarea, with other symptoms of heart disease, are present.

The majority of cases of dyspeptic dyspnoea yield readily to treatment directed to the morbid conditions present in the digestive system. If the attacks of dyspeptic dyspnoea are of the milder form, and occur in the intervals of stomach digestion, measures must be employed to improve the functions of the digestive organs and restore nutrition to a healthy state. Diet, clothing, bathing, hours for rest and sleep, as well as for exercise and diversion, must be regulated. The abuse of alcohol, tobacco, coffee, tea and venery must be corrected. Electricity, massage and sea bathing are valuable agents in treating the chronic dyspeptic. If the patient suffering with a severe attack of dyspeptic dyspnoea has recently taken food, the stomach should be evacuated, by an emetic or the stomach tube, and further washed out. This should be followed by tonics and aromatics.—N. Y. *Medical Journal*, Dec. 29, 1888.

Spontaneous Strangulation of the Limbs.—Under the name *ainhum* Dr. Silva first described in 1886, in the *Gaceta Medica de Bahia*, a curious spontaneous strangulation of the limbs. Dr. C. Buicli, of Bucharest, records two cases in the *Archives Roumaines de Médecine et de Chirurgie*, No. 1. From previously recorded cases, and from his two, Buicli concludes:

1. That the process by virtue of which the strangulation becomes operative, takes place during intra-uterine life. This process becomes completely developed before birth. No change takes place afterwards in the state of the parts.

2. The constricting furrow is sometimes simple and isolated, sometimes accompanied by congenital vices of conformation which lead to a true mutilation of the limbs. It is in the latter cases situated preferably at the level of the smaller members—the fingers; the lesion is bounded by simple circular depressions, or is characterized by the absence of one or more phalanges.

3. At the place of constriction there is sometimes obnubilation of sensibility; in other cases this change is absent.

4. The depression affects not only the skin and soft parts, but also the deep tissues, the bones.

5. While this lesion may be congenital it does not appear to be hereditary.

Medical Department, U. S. Navy.—SURGEON-GENERAL J. M. BROWNE has recently submitted the report on the health and general condition of the Navy, so far as concerns the Bureau of Medicine and Surgery.

The Naval hospitals are reported as being generally in a satisfactory condition, but the hospitals at Portsmouth, N. H., and Norfolk, Va., are in a dilapidated condition.

The Museum of Hygiene is overcrowded, and should have a much larger building. At present it has only a part of a building. Our Government seems to be excessively one-sided in the matter of liberality. This is seen in the case of the vacancies in the Medical corps of the Navy. The condition of assistant surgeons in the Navy, in the matters of rank and pay, is such that it is difficult to get desirable men to apply for the service.

Passed Assistant Surgeon C. W. Rush makes an interesting report on the medical condition of Alaska, the inhabitants and diseases of the country, and the mineral springs, of which there are a great many. These springs are hot and cold, and impregnated with sulphur, iron, and magnesia.

Passed Assistant Surgeon F. S. Nash has a report on the expedition to Northern Alaska. His report is unfavorable to the use of lime-juice as an antiscorbutic.

Medical Inspector T. C. Walton reports an epidemic of "sore throat" at U. S. Naval Academy at Annapolis; the sore throat was of diphtheritic nature. The most satisfactory general plan of treatment was to begin with a saline cathartic; give liquor ammon. acetatis during the height of the febrile stage; then tinct. ferri muriatis in from twelve to thirty drop doses, diluted with glycerine, every two to four hours, according to the degree of lessened vitality; also alcohol rather freely, as milk-punch or whisky and water; hot milk, beef-tea, and ice when asked for. Locally, frequent spraying of the throat with lime-water, applying tinct. ferri muriatis, pure or diluted one-half with glycerine, over the affected parts every three or four hours; syringing the throat and nostrils daily with a solution of chlorinated soda, or more frequently when fœtor was perceptible, care being taken not to forcibly detach the membrane. Externally over the painful glands a mixture of tincture of belladonna and iodine afforded relief. The patients were isolated until recovery was complete.

From the report on the Museum of Hygiene we learn that Medical Inspector Charles H. White has devised a simple method for the determination of urea, the apparatus for which can be easily made and used on board ship. Unfortunately, the method is not described in the report.

Aspiration and Drainage in Purulent Pericarditis.—At the meeting of the Clinical Society of London on Nov. 23, Dr. DICKINSON related the case of a boy, aged 10, who was brought to St. George's Hospital with symptoms supposed to be pyæmic. A large gluteal abscess was followed by signs of pleural effusion and œdema of the face and chest. On admission, June 15, 1887, there was evidence of effusion in the left

pleura and in the pericardium. The position of the heart was almost undiscoverable amid the dullness, which involved the left pleural and præcordial regions. There was much dyspnœa, blueness, and irregularity of the pulse. Œdema was more or less general, but especially marked about the thorax. The liver was enlarged or depressed so as to reach the umbilicus.

On June 18 the pleura was aspirated, and 37 ounces of serum were drawn off: this operation was repeated on the 23d with the removal of 32 ounces. The dyspnœa, blueness and œdema were but slightly and temporarily relieved by the operation, which was repeated on June 25 and 28, so rapid was the accumulation and so great the distress.

On June 30, the futility of dealing with the pleura having become apparent, the pericardium was aspirated, and one ounce of creamy pus withdrawn. On July 8 the aspiration was repeated with more success, 12 ounces of creamy pus being evacuated, and on the 15th with the removal of 19 ounces. The puncture was made on the right side close to the edge of the sternum, in the 5th interspace. Before each of these operations the heart was carried to the left by an evacuation of the pleura. The lower part of the pericardium, where the swing of the heart was greatest, and the right extremity of the cavity, from which the heart was farthest removed, was obviously the part that could be penetrated with the greatest safety.

By July 22 the pericardium was again as full as ever, and the general symptoms distressing. An incision was made where the punctures had been, and a tube was put in. This aspiration was followed by some faintness, but subsequently by great relief. After some temporary drawbacks, and three subsequent aspirations of the pleura recovery became complete.

MR. PARKER related a case of extensive pyopericarditis (associated with osteomyelitis of the tibia) which he had freely in-

cised. Death occurred while irrigation was being practiced to wash out the thick membraniform pus with which the pericardium was distended. As to the best place for the puncture, or opening, Mr. Parker recommended the 4th left interspace, close to the sternum.

Dr. Dickinson's rules for puncture are: 1. Make sure that the pericardium contains fluid. 2. Make out where the heart is. 3. Keep clear of it.—*British Medical Journal*, Dec. 1, 1888.

Hæmatoma of the Ear in Football Players.—MR. F. A. SOUTHAM says that the traumatic variety of hæmatoma auris is not infrequently met with in those who take part in the Rugby game of football. It may be caused by hard hits on the ear, or in a "tight scrimmage" by the pressure and friction exerted by the arms and bodies of the other forward players on the ears and side of the head, when the latter is bent downwards and forwards. Possibly a predisposing factor is the congested condition of the vessels of the head and neck, the result of severe straining efforts on the part of the player. The affection has become so frequent with the players of the Rugby game that many of the forward players wear a tight-fitting cap with lateral flaps to protect the ears.

In most cases the effusion into the auricle of the ear is slight, and it becomes absorbed spontaneously in a few days. But it is not very uncommon for the extravasated blood, probably mingled with some inflammatory exudation, to become organized and develop into fibrous tissue. This is more likely to occur if the person continues to play, paying no attention to the swelling of the ear. The consequence is, the upper portion of the auricle, the part usually affected, remains thickened and indurated, eventually assuming an irregular shrivelled-up appearance, owing to the contraction that takes place in the newly formed connective tissue. In some cases

suppuration occurs at the site of the injury, and deformity occurs after the pus has been evacuated and healing has taken place.—*British Medical Journal*, Dec. 8, 1888.

Bavarian Plaster Jacket for Fractured Spine.—MR. F. R. HUMPHREYS says: In a recent case of fracture of the mid-dorsal region of the spine, the patient becoming unmanageable, it was determined to put her up in a plaster jacket. On the third day after the accident this was done, with the assistance of two nurses, as follows:

We took two pieces of house flannel, one $2\frac{1}{2}$ yards long, $\frac{3}{4}$ of a yard wide; the other about 2 inches less in width, and 40 inches in length. We passed the longer piece under the patient in the same way as a draw-sheet; it reached from the acromial process to the lower part of the sacrum. The two sides were now brought together in the middle line in front, and sewn as close to the skin as possible. The axillary portion was split, the edges pared, and shoulder straps attached. Next, the extra pieces of flannel in front were split in about 8 pieces, nearly down to the stitching, and the alternate pieces tied together round a clothes-prop, cut about 2 inches shorter than the bed, so that it could be lifted straight up without knocking it against the bed. The straps were carefully tied, so as for all of them to be of the same tension when the weight came on them, and the patient was then lifted clear off the bed without pain or inconvenience. The lower limbs and the head were supported by a towel tied around the pole, which was then braced up to another one that had been previously placed on the head and foot rails.

The second piece of flannel was then dipped in the plaster mixture and applied to the first piece, muslin bandages wound round the whole, passing through the spaces left in front by the alternate strips of flannel alone being tied. It is advisable

to sew the shoulder straps on to the back part before placing this under the patient.
—*British Medical Journal*, Dec. 1, 1888.

Codeine as a Substitute for Morphine.—

DR. FISCHER, of Kreuzlingen, writes to the *Correspondenzbl. für Schweizer Aerzte* that for the last five years he has been using codeine extensively in cases in which morphine is indicated internally. A dose of 0.025 or 0.03 grams of codeine is said to be physiologically equivalent to 0.01 of morphine. Fischer gives codeine internally in powder, but when its bitter taste is objectionable he gives it in a mixture. It may be used externally in the form of suppositories, salves, inhalations, etc. Fischer warns against the rather common idea that the narcotic action of codeine is weak and unreliable. When genuine it has a most marked and constant anodyne and hypnotic action. It never causes bad secondary symptoms, even when given in full doses (as much as 3 centig.) three or four times daily for many successive days. Fischer states that codeine continues to produce its full physiological effects without an increase in the dose being required. The patient does not acquire a codeine habit, nor a craving for the drug. It is especially valuable for the agonizing cough in pulmonary phthisis or bronchitis, and as a hypnotic in all cases of insomnia, except that due to very severe pain.

Treatment of Furuncle of the Ear.—LÆWENBERG (*Transactions Ninth International Medical Congress*), believing it now demonstrated that furunculosis is caused by the introduction into the sebaceous glands of the staphylococcus aureus, the staphylococcus albus, or the *S. citreus*, or two or all three, rejects cataplasms and all emollients, using antiseptics only. He uses with great success instillations into the external auditory canal of a saturated or concentrated solution of boric acid; 20 grams of boric acid to 100 of absolute alcohol. When the

furuncle is far advanced, and there is no hope of resolution, it is opened by means of the galvano-cautery wire, or the epidermis is scraped off and the above-mentioned mixture instilled. When taken in time they are often aborted, and in all cases they disappear more rapidly and are less painful, especially when cocaine is added to the mixture.

Having noticed the frequency of furuncles of the ear after the removal of plugs of cerumen Læwenberg now uses antiseptic solutions only for their removal, and they no longer occur. Prophylactic instillations of the solution act well in women troubled by furuncles at the menstrual epochs, and persons who have them at certain seasons of the year.

The Gastric Juice in Febrile Diseases.—

DR. ANTON GLUZINSKI, of Cracow, after some extended experiments on this subject, draws the following conclusions:

In regard to the acute infectious diseases:

1. During the whole course of the fever (except in the final stage of typhoid fever) the gastric juice contains no hydrochloric acid.

2. The gastric juice digests neither in the organism—since it contains no peptone—nor outside the organism.

3. This gastric juice digests very well, artificially, after the addition of the proper quantity of hydrochloric acid, which shows that it contains pepsin, and that the impossibility of digestion is due solely to the absence of hydrochloric acid.

4. With the disappearance of the fever, or somewhat later, the gastric juice becomes capable of digestion both within and outside the organism.

In regard to the chronic febrile diseases, normal, digesting gastric juice exists during the fever.

Other things being equal, the nature of the gastric juice in febrile diseases is influenced more by the nature of the injection than by the high temperature. The possi-

bility of a secretion of active gastric juice in chronic febrile diseases increases the hope of good results from forced feeding. *Deutsches Archiv f. Klin. Med.*, Bd. 42, Hft. 5.

Creasote in Pulmonary Phthisis.—DR. BEVERLEY ROBINSON has an interesting communication on this subject in the January, 1889, number of the *American Journal of the Medical Sciences*. He began to use the drug in pulmonary phthisis soon after the publication, in 1877, of an article by Bouchard and Gimbert on its beneficial effects in consumption. He calls attention to the fact that what is called "commercial creasote," obtained from the distillation of coal-tar oil, and having neither the color, the odor, nor the chemical properties of wood creasote, should not be used. The best creasote is that obtained from the distillation of *beechwood-tar*. Possibly many of the cases in which creasote has proved inert were cases in which the coal-tar product was used.¹

As to whether creasote interferes with the bacilli locally, or through the circulation in virtue of its antiseptic properties, or whether, in addition to its promotion of sclerosis, it merely favors general nutrition whilst acting happily upon secondary, though important symptoms, Dr. Robinson is not prepared to affirm, but he is inclined to accept the latter rather than the former theory.

At the beginning of treatment creasote should be taken in small or moderate doses, which should be continued a long time, or only gradually increased. The daily amount prescribed by Dr. Robinson for adults has varied usually from 3 to 6 minims, and continued frequently many months without increase, or interruption, or any evidence of intolerance. The ordinary dose of half a

minim is repeated every two or three hours. It is given with whisky and glycerine, according to the following formula:

Creasote (beechwood)	℥vj
Glycerini	℥i
Spts. frumenti	℥ij
S. as directed.	M.

In hospital practice, for convenience' sake, or rather so as to give the patient a sufficient supply of medicine to last till his next visit, he prescribes teaspoonful doses, each teaspoonful containing one minim of creasote, and to it are added two teaspoonfuls of water, which prevents irritation of the throat in swallowing the dose, and obviates irritation of the stomach in some cases. The dose is ordered every three hours, so that if taken with absolute regularity the patient gets eight minims of creasote in twenty-four hours. The whisky and glycerine should be perfectly pure, Price's or Bowers' glycerine being probably the best.

Dr. Robinson has frequently prescribed creasote in gelatine capsules combined with cod-liver oil. Each capsule contains about a minim of creasote. They should be taken fifteen or twenty minutes after meals. Two or three doses mark the limit of stomach toleration ordinarily, and in only one or two cases has he been able to increase this number without causing digestive disturbances. This method of administering creasote appears, therefore, to be inferior to the whisky and glycerine mixture. If creasote be administered in cod-liver oil, the amount of oil must be at least one drachm to the minim of creasote, in order to obtain a proper dilution of the drug. Otherwise, if cod-liver oil be indicated it is best to give it separately.

In a large proportion of cases of phthisis that he has treated during the last year or two (and in all of the cases herein analyzed), whilst creasote was taken internally, Dr. Robinson also used antiseptic inhalations by means of the perforated zinc inhaler. As a rule, in the beginning

¹Dr. Robinson says he is credibly informed that the only creasote in the market that responds favorably to all or most of the tests of absolute purity is that of T. Morson & Son, an English product, and that of Merck, of Darmstadt.

the inhaler was worn during fifteen or twenty minutes every three hours, and from ten to twenty drops of the inhaling fluid were poured on the sponge of the inhaler at least three times in 24 hours.

The inhaling fluids most frequently used were:

1. Iodoformi.....gr. xxiv
 Creasoti.....℥iv
 Ol. eucalypti.....℥viiij
 Chloroformi.....℥xlviij
 Alcoholic ætheris q. s.....℥ss. M.
2. Tinc. iodi ætherealis.....
 Acidi carbolici.....āā ℥ij
 Creasoti.....℥j
 Sp. vini rect.....ad. ℥j M.
3. Creasoti.....℥i
 Alcoholis.....ad. ℥ss M.

The total number of cases to which Dr. Robinson gave creasote mixture and creasote inhalations (simple or compound), were 143 at the New York Hospital, 19 in private practice, and about 150 at St. Luke's Hospital. Of the 143 cases seen at the New York Hospital, 51 were in the first stage of the disease; 18 in the second stage; 18 in the third stage; also 4 cases of laryngeal phthisis, 1 case of fibroid phthisis, and 1 case of acute phthisis; leaving 50 cases in which the stage of the disease is not mentioned. Of the 143 cases, 54 were females and 89 males. Of the 93 cases in which the stage and nature of the disease were mentioned, the duration of treatment in 66 cases (47 hospital and 19 private) varied from one week to two years, eleven months and a half; 45 of these were males and 21 females; 37 cases were affected with the first stage in a manifest manner; in 3 cases the physical signs were doubtful or negative; in 6 there was an evident second stage; and in 1 it was questionable whether the disease had advanced so far as the second stage; in 11 cases the disease had reached the third stage.

In cases of the first stage, 24 had their

cough improved, sometimes very much, sometimes only a little; in 3 cases the cough did not improve; in 10 cases the cough was cured. In several cases in which the cough was improved, the sleep was quieter, and previous insomnia evidently depended largely upon cough and expectoration; in a few cases, even though the cough improved, the sleeplessness did not improve, and was evidently independent of the cough. In 3 cases, at the second stage, cough improved either slightly or very much. In the other cases it remained stationary; in no case did it increase. In 6 cases, at the third stage the cough improved notably in 4; in 1 the improvement was very great; in 1 it became worse.

As regards *night-sweats* in the first stage, 8 cases were cured, 4 improved, 3 remained stationary; in 1 case they increased; in 6 cases the patients never suffered from them; in 15 cases no mention is made of the symptom. At the second stage 1 was cured, 1 remained stationary. At the third stage 1 case was cured, 2 improved (1 greatly), 1 patient had no night-sweats, and in 7 cases no mention was made of them.

In the majority of cases in which there was dyspnoea, this was improved or cured under the creasote. The same is true in regard to the sputa and the appetite.

The effect on the weight was very noticeable in many cases. Two, three, and four pounds increase was quite common. One patient gained three pounds in six weeks. Most of the cases gained weight; in only 6 was there loss of weight.

As regards hæmoptysis, it was seen that whilst creasote may not, except to a very limited extent, control pulmonary hæmorrhage, it does not promote nor occasion it, and may be given with perfect safety to patients liable to hæmorrhage, and during the period that they actually occur.

In regard to the effect on the temperature, Dr. Robinson says it is fair to assume that in creasote we have an antithermic

agent of no mean value in the treatment of phthisis.

Dr. Robinson concludes his paper by saying that he is convinced that we have in beech-wood creasote a remedy of great value in the treatment of pulmonary phthisis, particularly during the first stage. Not only does it lessen or cure cough, diminish, favorably change, and occasionally stop sputa, relieve dyspnoea in many instances; it also often increases appetite, promotes nutrition, and arrests night-sweats. It does not occasion hæmoptysis, and rarely causes disturbance of the stomach or bowels, except in cases in which it is given in too large doses. It is certainly an unobjectionable medicament from any point of view. It is easy of administration; it is adapted to the majority of sufferers from pulmonary phthisis everywhere; it may be used with some advantage at all stages of this disease, even the most advanced, and in my experience it has proved itself superior to any other medicament with which I am familiar.

Puerperal Insanity of Septic Origin.—At the meeting of the Medical Society of London, on Dec. 3, Dr. SAVAGE read a paper on this subject, in which he insisted upon the frequent correlation of puerperal fever with puerperal mania. The ordinary form of puerperal insanity, he said, was quite common, and from 8 to 10 per cent. of all cases met with in hospital practice were due to this cause. When it was considered that a large proportion of the cases were treated at home, the total would seem to be somewhat formidable. Puerperal insanity was less curable, he said, than it was generally believed to be. About 5 per cent. of the acute cases proved fatal, and no less than 20 per cent. remained permanently afflicted. When of septic origin the malady most frequently took on the acutely maniacal form, and most of the fatal cases were of this kind. He pointed out that neurotic persons, curiously enough,

seemed more liable to septic changes, the determining causes being various. He related the cases of three sisters, all of whom fell victims to the same form of septic mania at intervals of some months.

Dr. BARNES said that obstetricians saw the beginnings, but missed the sequel. Heredity, he said, was the great predisposing cause. As to the evocative causes—blood diseases and such like—he said that Dr. Savage had not drawn a line of demarcation between the mental disturbance occurring during pregnancy, and that which broke out during lactation. It was very important to distinguish between them. Albuminuria was common. The patients had a condition of high vascular tension to which the albuminuria was often due. Then there followed a stage of depression, when the septic symptoms became more marked. In cases that he had seen after labor, anæmia was marked, as was toxæmia from other causes. He said that the liver of a puerperal woman was always fatty, thus increasing the difficulty of disposing of the post-puerperal metabolic products. Emotional shock was a powerful influence in the production of sepsis. Exhaustion was also a factor. He had seen insanity cured by replacement of a displaced uterus.

Mr. KNOWSLEY THORNTON said he had had several cases of marked insanity after important abdominal operations. He suggested that the marked acceleration in the pulse, which was considered of such ill-omen in these cases, might be due to septic causes, the other symptoms being masked by the mental condition. He explained the albuminuria, which was often present, to be due to the acute congestion of the kidneys, caused by the elimination of the poison.

Dr. SYMES THOMPSON said there could be no doubt that the susceptibility of puerperal women was largely due to the prostration. Under such circumstances sepsis was more readily induced.

DR. SAVAGE said that statistics seemed to point to a preponderance of cases among the upper classes. He said there was no more danger to reason from puerperal mania than from the delirium of fever. He preferred a tonic treatment.—*British Medical Journal*, Dec. 8, 1888.

Strychnine as an Antidote in Narcotic Poisoning.—Dr. G. A. GIBSON calls attention to the treatment of the effects of narcotic poisons by using strychnine to avert the paralyzing action of such drugs on the medullary centres. Narcotic drugs in lethal doses cause death by paralyzing the respiratory centre. In the cases of narcotic poisoning that have come under Dr. Gibson's notice during the last three years strychnine has been used hypodermically, when there was any irregularity or interruption of the breathing that appeared to threaten a failure of the respiratory centre. The effect of the drug is immediately shown by the increased rate, more regular rhythm, and greater depth of the respirations, and even in cases in which the breathing had ceased, it began again after the administration of strychnine.

In the treatment of poisoning by narcotics, says Dr. Gibson, two things should be studiously avoided: 1. Making the patient walk, and flogging him, to keep him awake. Such treatment has a tendency to exhaust the vital powers. 2. The use of alcoholic stimulants, which aid the action of narcotics.

The patient should be kept in the horizontal position, the respiration is to be carefully watched, and should there be the least sign of irregularity, or shallowness, or inequality in the breathing, gr. $\frac{1}{150}$ or $\frac{1}{300}$, according to the age of the patient, of sulphate of strychnine should be given subcutaneously, and may be repeated at intervals of an hour two or three times. If, notwithstanding this, respiration becomes very feeble, or ceases entirely, artificial respira-

tion must be begun promptly. If the circulation threaten to fail in consequence of the poison affecting the motor mechanism, or of spasm of the arterioles caused by deficient oxygenation of the blood, it should receive prompt attention. Strychnine may be used as a stimulant to the motor centres of the heart, and may be aided by the use of ammonia or ether. If artificial respiration has been thoroughly performed, there should be no spasm of the arterioles; but should there be any, nitrate of amyl must be used. Strychnine may be used also in cases of threatened failure of the respiratory centre, caused by the general anæsthetics.—*The Practitioner*, December, 1888.

Elastic Pressure in Mammary Inflammation.—At the meeting of the Royal Academy of Medicine in Ireland, Section of Obstetrics, on Nov. 23, DR. ANDREW HORNE read a paper on this subject. He said that inflammation of the breast was almost always the result of infectious material gaining entrance through fissures and cracks of the nipple. The treatment advocated was to envelop the breast in a layer of absorbent cotton. Having first painted the breast with a 5 per cent. solution of oleate of mercury and morphine, an elastic web bandage is used to make gradual and equable pressure over the inflamed gland, thereby securing the most perfect rest possible.

DR. MACOX said that he had long used compression of the breast in certain cases, though he did not regard it as suitable where there was suppuration; but he could recommend Dr. Horne's method, even where there was suppuration, as strongly as in other cases. It gave great relief to the patient. In certain cases it would permit the woman to go on nursing, which, in case of the poor, was a great advantage. It seemed specially applicable in the troublesome form of the affection in which, though the breast was enormously distend-

ed, and the skin quite tight, not a drop of milk would flow.

DR. SMYLY said he used to employ Martin's bandages, but he believed Dr. Horne's arrangement to be much better. One of its best features was the covering up of the breast, thus preventing external infection. He believed one of the causes of mammary inflammation was the handling of cracked nipples by the midwife, whose fingers are not always aseptic.

DR. HORNE said that it was most difficult to put on elastic plasters so as to get even pressure, and they are apt to cause an eczematous eruption on a tender skin. The Martin's bandage causes an uncomfortable heat, which the elastic web bandage does not.—*British Medical Journal*, Dec. 8, 1888.

Quantitative Estimation of Uric Acid.—

DR. AUGUST HERRMANN has recently reported the results of some experiments with Haycraft's method of estimating uric acid, which is based on the fact that nitrate of silver is very insoluble in water and ammonia. The urine is first treated with bi-carbonate of soda, is then made alkaline, and ammoniacal solution of silver is added. The precipitated urate of silver is collected on an asbestos filter, and washed. It is then treated with nitric acid, by which it is dissolved, and in the filtrate thus obtained the silver is estimated by Volhard's method; and from the amount of silver found the amount of uric acid can be calculated. Dr. Herrmann has slightly modified this method: he used a large quantity of urine, and added magnesia in addition to bicarbonate of soda; he treated the wash-water with hydrochloric acid instead of a solution of common salt. He compares Haycraft's method with Ludwig's method: in the former two analyses gave the same result; in the latter there was a difference of + or — 0.00038 grain; in the former the results were somewhat higher, on an average 0.0029 per cent., probably due to a precipitation of xanthin by the silver. The

constant error in both, estimated by using pure uric acid, is — 2 per cent. He found that sugar and albumin interfere very slightly with Haycraft's method, and need not be separated before estimation. Though this method gives, as compared with Ludwig's, too high a result, yet for comparative and clinical purposes, where a knowledge of the variation in the amount of urea present is sought, it is to be preferred on account of its practicability and the short time required for its performance.

Treatment of Syphilis.—PROFESSOR EDWARD LANG considers metallic mercury the sovereign remedy in the treatment of syphilis. Internally he recommends:

Lanolin mercurial ointment (50	
per cent.).....	3 grams
Milk sugar.....	7 “

Make 60 pills. Take from 4 to 6 pills a day.

Lang recommends Unna's mercurial plaster, especially in the treatment of syphilis in children. A part of the surface of the body should be covered for from 4 to 6 days, and after this another part of the body.

In order to prevent eczema, gray plaster should be used, made as follows:

Olei erudi.....	180
Plumb. oxydat.....	100
Hydrargyri.....	60

For subcutaneous injection Lang thinks gray oil best, prepared as follows: 5 grams of lanolin are dissolved in 20 grams of chloroform, and 10 grams of mercury should be rubbed up with this until the chloroform disappears.

Lang recommends the following formula for using calomel:

Calomel	
Lanolin āā.....	2.7
Olive oil	4.6

Lang considers subcutaneous injections of calomel and gray oil better than innunctions.—*Internat. Klin. Rundschau*, No. 51, 1888.

Water in Obesity.—LORENZEN, of Erlangen, has made some experiments on himself in regard to the influence of liquids on obesity. For a period of nine years he drank daily a large quantity of Erlanger beer. For four years of this period the quantity consumed daily amounted to 10 litres, or about 22 pounds; during the remainder of the period the quantity was between 5 and 7 litres, with 1 litre of wine. In this way he succeeded in increasing his body weight by 78 pounds. On shutting off the liquids his weight fell 14 pounds in 7 days; but when more water was taken, even without alcohol, the weight again increased. Within five weeks he reduced himself 28 pounds. Similar experiments, carried out on some of his heavy colleagues, gave similar results. Lorenzen explains the disappearance of fat, when fluids are withheld, on the hypothesis that the cells whose province it is to decompose albumen, when a large quantity of fluid is taken, now expend a part of their energy in the combustion of fat.—*Medical Press—The Sanitarian*.

Jumbul in Glycosuria.—MR. GEORGE MAHOMED, of Bournemouth, records his first experience with jumbul (or jambul), in diabetes. The patient was a man about 60 years of age, and had had diabetes about nine months, to his own knowledge. The urine had a specific gravity of 1020, and contained a considerable amount of sugar. He was put on *perles* of jumbul, a two-grain *perle* three times a day. At the end of a week the urine contained no sugar. On the drug being discontinued the sugar reappeared, and disappeared again when the jumbul was resumed. As the patient experienced considerable temporary depression, the quantity of jumbul was diminished to two *perles* a day, on alternate days. Nearly four months after the first visit the urine still contained no sugar, and after more than a year the patient believes that he is cured.—*Practitioner*, December, 1888.

Yeast in Infectious Diseases.—In a recent number of the *Deutsche Medicinische Wochenschrift* attention is drawn to the use of yeast in the treatment of certain diseases. In an epidemic of scarlatina and diphtheria it was employed to the exclusion of every other medicament. The scarlatina cases developed without complication, and with an ordinary amount of fever, while in the diphtheria cases the false membrane rapidly separated, and lesions of the heart and paralysis of the muscles did not supervene. The mean dose was one teaspoonful every hour. Gargles of yeast, also, in the proportion of one part of yeast to five of water, were found to be of service. The yeast does not cause diarrhoea; in fact, it may be recommended in the diarrhoea of infants.—*Medical Press and Circular*, Nov. 14, 1888.

Treatment of Typhlitis.—BOUCHARD recommends the following plan of treating typhlitis: 1. Alleviate the pain, either by injections of morphine or the application of belladonna ointment under a hot poultice. 2. Wash out the large intestine by copious hot enemata, consisting of at least a quart of hot water in which 3jss of borate of sodium is dissolved, or to which two or three teaspoonfuls of a mixture of equal parts of tincture of benzoin and spirit of camphor is added. 3. The patient must be kept absolutely quiet. 4. Only the mildest kind of purgatives, if any at all, should be used. 5. Food should consist of milk diluted with alkaline waters, with the yolk of an egg at a later period.—*France Médicale*, Sept., 1888.

Antipyrin in Chorea.—HAJOS injects hypodermically a 50 per cent. solution of antipyrin in chorea, beginning with ℥vijss and doubling the dose daily until gtt. 60 are given at one injection. He uses antipyrin also in intercostal neuralgia.

EDITORIAL.

PYRODINE, A NEW ANTIPYRETIC.

In the *Medical Chronicle*, of November, 1888, Dr. J. DRESCHFELD reports some interesting clinical observations on pyrodine [which should be spelled pyrodin]. He has used it in various forms of fever. It was given in 12 cases of croupous pneumonia. It quickly reduced the temperature, and in three cases there was no further rise after the first administration. In the other 9 cases the reduction lasted over 12 hours. The dose varied from 4 grains in children to 12 grains in adults. All the patients bore it well. Profuse sweating accompanied the reduction of temperature. Of the 12 cases 11 recovered. The fatal case was moribund when admitted to the hospital.

The drug was tried in 25 cases of scarlet fever, in which the initial temperature was very high. The effect in these cases was very good. The temperature was quickly reduced, sometimes below normal, without any unpleasant symptom, such as prostration or collapse, being produced. It was not found that cases that took the drug were more liable to suffer from post-scarlatinal nephritis. Recurrence of high temperature was quickly allayed by repetition of the pyrodin.

In 20 cases of typhus fever the results were highly satisfactory. Given in small quantities, one or two doses a day, pyrodin reduced the temperature, and enabled the patient to pass through the fever period with a reduced temperature. It gave the patients great comfort, diminished the delirium, and did not delay the crisis. The patients required but a small amount of stimulants, and their convalescence was very rapid.

In typhoid fever the toxic effects of pyrodin, which were manifested earlier than in any other disease, were an objection to its free administration. It reduced the temperature, but symptoms of aniline poisoning (jaundice, hebetude, occasionally sickness)

came on, due to the action of the pyrodin on the blood: these symptoms were by anæmia.

Pyrodin acted well in two cases of migraine in which antipyrin had failed.

The results of Dr. Dreschfeld's investigation in regard to the use of this drug are summarized as follows:

1. It is a powerful antipyretic, reducing fever-temperatures quickly, and maintaining the temperature at a low level for some hours.

2. It is easily taken; but given in often repeated doses at short intervals, it easily shows toxic effects, which depend on its action on the blood, producing hæmoglobinuria. Unless the temperature be very high, it should not be given oftener than once in 18 or 24 hours, and its use should not be continued for more than a few days.

3. It produces marked perspiration, but no nausea, vomiting, nor collapse. The dose for children is from 2 to 4 grains; for adults from 8 to 12 grains.

4. It reduces the pulse as well as the temperature, and often causes diuresis.

5. It is a much more powerful antipyretic than antipyrin, antifebrin, or phenacetin, but it is more toxic than these bodies, and must be given less frequently.

EMERGENCY APPLIANCES ON RAILWAYS.

Anything that will contribute to the welfare and safety of the traveling public, and of the employes of the great transportation companies of our country, is usually readily adopted by the companies, when properly presented to them. The number of accidents is comparatively small, but the aggregate of damages paid by railway companies to injured employes and passengers is enormous. The loss of life and limb is much reduced by prompt arrest of hæmorrhage and thorough antiseptic occlusion of the contused wounds that usually result from railway accidents. These ends might be promoted by having in every railway

coach and station sealed packages of hæmostatic appliances and antiseptic dressings, wrapped in covers on which are printed pictured and verbal directions for their use. At the termini of each road, instruction in the use of these dressings and appliances could be easily given the train men by skilled persons. The unions and benevolent societies are directly interested in this matter. The train men are of unusual intelligence, and the interest they would take in such instruction would be increased by the knowledge that sooner or later they might very likely need the assistance they are taught to give. Many more employés than passengers are injured. With the former, injuries to the hand are the most frequent. It is well-known that the most terrible contusions of this extremity are rapidly repaired under antiseptic dressings, and the organ restored to a very fair degree of usefulness. Thus the State may be saved the care and expense of a useless, and perhaps a vicious citizen. It would be well to prepare such packages and place them in those stations and switch-houses about which statistics show that an unusual number of accidents are accustomed to happen. In this way their usefulness could be demonstrated, and the subject brought to the notice of those most concerned.

THE ACQUIRED ILIO-FEMORAL ARTICULATION.

MR. W. ABURTHNOT LANE writes (in *Medico-Chirurgical Transactions*, Vol. 53,) of an undescribed method by which the superjacent weight of the body is transmitted in united or ununited fracture of the femur through an acquired ilio-femoral articulation and the bearing of the principle involved upon the surgery of the hip-joint.

In 320 subjects that he has examined he found several instances of fracture of the neck of the femur, in all of which but three union was complete. He was struck by the fact that in three out of the small

number of these fractures, a very considerable portion of the superjacent weight of the body was transmitted to the femur by means of a very strong and dense process of bone, which projected from the front of the upper end of the femur, and articulated above by a flattened upper extremity with a corresponding quadrilateral depression situated immediately below the anterior inferior spinous process of the ilium, and encroaching to a varying extent upon this process. The opposing surfaces of bone, as well as the portions of bone immediately adjacent, were intimately united to one another by dense ligamentous tissue. The amount of pressure transmitted through this newly-formed articulation varied considerably in the three cases. In that in which the fragments had not united by bone, almost, if not the whole of the superjacent weight was transmitted through the acquired joint. In the two cases in which the fragments had united by bone the amount of weight transmitted by the head of the femur was considerable, in one case equaling, and in the other possibly exceeding that borne by the accessory articulation.

Mr. Lane directs attention to the immense mechanical advantages which the ilio-femoral articulation affords in cases of fracture of the femur in which there is much downward displacement of the head of that bone, and these advantages are especially obvious when the fragments move freely upon each other. He also calls attention to the manner in which this newly-developed articulation serves to diminish as much as possible the shortening of the limb both apparently and practically, to render it very much more useful than it would be without the pressure of such a powerful joint, and to reduce to a very considerable extent the deformity of the trunk, and particularly the extreme lordosis and unsteady gait that would otherwise ensue on the injury. He believes that the application of the knowledge of

this mechanism will enable us to make very considerable strides in the operative surgery of the hip-joint.

Take, for example, the operation of excision of the hip-joint. The most successful operation gives comparatively unsatisfactory results. Apart from the shortening, the chief reason of the comparative failure of this operation seems to be, that the divided upper extremity of the femur is left in apposition with the outer aspect of the ilium, to make for itself a most insecure and unsatisfactory connection with that bone, in a position in or behind the original vertical plane of the acetabulum. This new articulation, on the security of which the usefulness of the limb depends, allows of a gliding movement between the bones, the upper extremity of the femur rising vertically to a variable extent when the weight of the body is thrown upon the excised limb.

From an examination of the mechanism of this ilio-femoral articulation, developed in the case of ununited fracture of the femoral neck, it is obvious that if in the operation of excision of the hip-joint the upper extremity of the femur were displaced upwards, forwards, and inwards, and were attached or fixed in position to the anterior inferior spinous process and to the bone immediately beneath it, we should have formed an ilio-femoral articulation that would differ in no way from, and would serve its purpose quite as well, as did that described. The mechanical advantages gained by the formation of such an ilio-femoral joint in cases of excision are enormous. Instead of the usually very feeble joint that, when unsupported, cannot, except in very rare cases, support the weight of the body, we would have an articulation that would sustain nearly as much strain as the original, which would be accompanied by much less deformity of the trunk both in standing and walking; and the deficiency in the length of the leg could be readily compensated without in-

creasing the upward displacement of the femur and diminishing still further the usefulness of the joint in connection with that bone.

INFLUENCE OF SALICYLIC ACID ON THE EXCRETION OF URIC ACID.

A year and a half ago MR. A. HAIG read a paper before the Royal Medical and Chirurgical Society of London in which he drew attention to the relation of a certain form of headache to the excretion of uric acid, showing that the headache in question coincided with a plus excretion of uric acid, and was possibly due to an excess of this acid in the blood. In a later paper, in the *Journal of Physiology*, Mr. Haig showed that alkalies, as soda and potash, always increase the excretion of uric acid, within certain limits, while acids such as muriatic, citric, and acetic, always diminish the excretion of uric acid. The contrary is true of salicylic acid, however; and it is now shown that this drug is of very great value in rheumatism and gout.

The action of salicylic acid is to dissociate the excretion of uric acid from its general relations to acidity, so that an increase of acidity, while there is plenty of salicylate in the blood, is accompanied by no diminution of uric acid excretion. It is known that acids play an important role in dyspepsia, gout and rheumatism; and if the salicylates will prevent these acids causing retention of uric acid, we can easily explain a large part of their action in these affections. So high an authority as Sir Alfred Garrod makes the distinct statement that "when a few glasses of wine, ale, or porter quickly and invariably produce in an individual an inflammatory affection of a joint, such inflammation is of a truly gouty character"; and there is little or no doubt that this gouty inflammation is due to hypersecretion of uric acid.

From Mr. Haig's experiments salicylate of soda does not appear to have any definite effect on the acidity of the urine, but it is

seen that the uric acid secretion is not influenced by the acidity in the usual way. It is shown, in a paper read by Mr. Haig before the Royal Medical and Chirurgical Society a year ago, and published in the *Medico-Chirurgical Transactions*, Vol. 53, that under salicylate, uric acid excretion is not kept down by rise in acidity, but rather the reverse; and that a large excess of uric acid excretion, when it occurs under salicylate, is not accompanied by headache. To these facts must be added several others: Brunton has shown that salicylate of soda is a valuable remedy in headache; we know also that some form of salicylate is a relief to the pains of acute rheumatism, and prevents or relieves the pains and discomforts of some phases of gout. We know again that it is the headache of persons with a gouty tendency that is most frequently and easily relieved by salicylate, and it is reasonable to infer that the headache relieved by salicylate is an expression of so-called "quiet gout." Thus it appears that these headaches are due to hypersecretion or excretion of uric acid.

If we accept the statement of Latham that salicylic acid combines with glycocine and passes out in the urine as salicyluric acid, and if we suppose that salicylic acid has the power of splitting up uric acid and combining with its glycocine so as to form salicyluric acid (as benzoic acid does to form hippuric acid), we are on the road to an explanation of the reversal by salicylate of the usual action of acidity on the excretion of uric acid. What we know of the chemistry of salicyluric acid leads us to suppose that it is more soluble than uric acid, both in the tissue fluids and in slightly acid solutions; peculiarities that are sufficient to explain the altered relation of uric acid excretion to acidity under salicylates. Both hippuric and salicyluric acid, there is reason to believe, are far more soluble in water than is uric acid, and also more soluble in water containing hydrochloric acid. Now, if when we administer

salicylate the uric acid in the blood and tissue fluids is converted into salicyluric acid, we have to deal with a substance far more soluble in those fluids than is uric acid, and also more soluble in slightly acid fluids; and if change of solubility be the true explanation of the action of acids and alkalies on uric acid excretion, the results obtained with the salicylates—that a rise in acidity no longer entails a fall in uric acid excretion—are easy of explanation.

Mr. Haig believes that, as in the case of alkalies, salicylic acid acts on the uric acid supposed to be stored in the liver and spleen, and, its solubility being increased, it rushes at once into the blood and out of the system through the kidneys. This rush into the blood under the action of the salicylates is not accompanied by headache, thus differing from the rush under the alkalies; so that there are reasons for believing that the chemical combination in the blood of uric acid and the salicylates is different from that formed between uric acid and alkalies.

In a paper read before the same society last April, Mr. Haig contrasts the above-mentioned action of the salicylates with that of several drugs that cause retention of uric acid. It is shown that lead, taken as the acetate, causes clearly and distinctly retention of uric acid. Iron, also, causes retention of uric acid, though not so quickly as the lead salt. Sir Alfred Garrod says that urates of lead and iron are quite insoluble, which fact may explain their action in causing retention. Lithium and the lithia salts have enjoyed a high reputation for several years in gouty and rheumatic affections—in the uric acid diathesis, though they have, unexpectedly and in an unwelcome manner, shown themselves completely inert in many cases. Its urate is extremely soluble, but from Mr. Haig's experiments there appears to be no doubt that it causes retention of uric acid. Mr. Ure pointed out in 1860 that lithia was no use as a solvent of uric acid when taken

by the mouth. Carbonate of lithia had been recommended in the treatment of vesical calculus; but Mr. Ure pointed out that it would undergo decomposition and precipitation when coming in contact with ammonia-phosphate of soda, and thereby be rendered inert. Given internally it forms a nearly insoluble triple phosphate with phosphates of acids, or with the triple phosphates of ammonia and soda—salts that are generally present in animal fluids. Lithia taken internally, therefore, never reaches the uric acid to form a soluble urate of lithia, but, on the other hand, by forming an insoluble compound with phosphate of soda, it practically removes from the blood one of the well-known solvents of uric acid. If it be desired to give lithia for any special reason, one-drachm doses of sodium phosphate should be given three times a day, in order to supply the place of the sodium phosphate removed by combination with the lithia, thus preventing the lithia causing any retention of uric acid. But it is just as well not to use lithia.

The connection between lead-poisoning and epilepsy has been regarded as rather mysterious. But knowing that lead causes retention of uric acid, and that epilepsy may be caused by retention of uric acid, the apparent mystery is cleared up. Some cases of epilepsy yield uric acid reactions identical with those obtained in some cases of headache; and if some headaches are due to uric acid retention, it is likely that some epileptic attacks are also due to such retention, and can be prevented like the headaches by treatment directed to the uric acid factor. There is a distinct clinical relationship of epilepsy both to headache and gout. All epileptic fits are not due to uric acid; but it is probable that it will be shown that the cases of epilepsy that have a marked family-history of gout, rheumatism, headache, or epilepsy, will give uric acid reactions, and may be cured by treatment directed to the uric acid factor, as in the case of the corresponding headache.

It is in these cases of epilepsy that lead and iron will do harm, and the salicylates may be expected to be beneficial.

As may be seen, Mr. Haig's suggestions are far from being empirical, and the field that he has opened is certainly worth the working. It is certainly a significant fact that the vegetable diet that Mr. Haig has found so useful in headaches due to uric acid has been found most beneficial in some cases of epilepsy. His suggestions are partly borne out by Radcliffe's observation, that by giving iodide of potassium and bicarbonate of potassium with bromide, he was able to give less bromide in cases of epilepsy. Radcliffe is very emphatic as to the disadvantages of associating iron with drugs given in epilepsy.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

DR. N. S. DAVIS, who has been the editor of the *Journal of the American Medical Association* since its foundation in 1883, resigned the editorship some months ago, his resignation taking effect on January 1. The Board of Trustees of the *Journal* elected DR. JOHN B. HAMILTON, Surgeon-General of the U. S. Marine Hospital Service, as editor, and he has arrived in Chicago to take charge of the *Journal*, having been granted leave of absence by the Treasury Department.

There is an erroneous impression that the office of publication will be removed from Chicago; it will remain in this city.

BRAIN WEIGHT AND INTELLIGENCE.

He does science a favor who dispels the least of still existing scientific superstitions. A scientific superstition has long prevailed in regard to the weight of the brain as compared with the weight of the body in man and other animals. Most physiologists hold that the weight of the human brain is one-fortieth of that of the body, and that such a proportion is not attained by any other

animal. This flattering superstition is dispelled by some recent investigations of Dr. JOSEPH L. HANDCOCK (*American Naturalist*, XXII. p. 537, June, 1888) on the weight of the body and brain of birds. He finds that in the smaller and more intelligent birds the weight of the brain rises to one-thirteenth that of the body in *Stetophaga ruticilla* (American redstart), and to one-seventeenth in *Regulus calendula* (ruby crowned kinglet) and *Parus atricapillus* (black capped chickadee); and in the larger and more sluggish of the tribe it often remains higher than in man or any carnivora.

SOCIETY REPORTS.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, October 6.

THE PRESIDENT, J. H. ETHERIDGE, M.D.,
IN THE CHAIR.

DR. BAYARD HOLMES reported a case of Gastronomy, which appeared in THE JOURNAL AND EXAMINER.

DR. JAMES G. KIERNAN read a paper entitled

MENTAL SYMPTOMS AFTER SURGICAL PROCEEDINGS.

Under the title "delirium traumaticum nervosum" the older surgeons described a number of mental symptoms which made their appearance after surgical operations. These symptoms usually consisted of great motor agitation, visual and auditory hallucinations, excessive loquacity, and exceptionally the delirium was of a stuporous type, and still more rarely, the symptoms were of a very violent type. The patient generally made a rapid and full recovery. Exceptionally death resulted from the delirium, and still more exceptionally the patient remained permanently insane.

Scheede reported many cases due, he claimed, to iodoform: others were charged to carbolic acid, and still others to mercury

bichloride. There was no great improbability in this etiology, for the mental phenomena were such as these agents do produce. Cases occurred, however, where the influence of antiseptics could be excluded. Then the symptoms were charged to blood poisoning, but in the majority of instances there was no evidence of this. This complication has been observed in 80 cases after various surgical procedures, according to a not very thorough research I have made of the literature. Thirty cases occurred after cataract operations. Thirty resulted after gynæcological procedures. The remainder resulted from plastic operations, amputations, dental procedures, etc. In 15 cases there was larvated epilepsy precedent to the operation. In 10 hysteria major was present. In 15 cases a neurotic element existed. In 25 cases the patients had arrived at periods of involution when instability of the nervous system usually results. In 6 cases the influence of blood poisoning was demonstrated.

The prognosis in the larvated epileptic cases was good so far as the mental phenomena was concerned. The same is true of the neurotic and hysterical cases. In some of the cases occurring at the period of involution senile degenerations were precipitated. The majority of the blood poisoning cases died. As a rule the type presented was that of acute confusional insanity. Ordinary epileptic and hysterical insanity resulted in cases of larvated epilepsy, and hysterical insanity in hysterics. Typhomania at times occurred.

According to certain estimates, about 2 per cent. of the gynæcological procedures and the same per cent. of cataract operations are followed by psychical symptoms. The etiology is clear in most cases. The antecedent conditions of the patient as to age and constitution act as a predisposing cause. The mental agitation precedent to the operation is a direct exciting cause.

The moral treatment of the patient an-

tedent to operation, supplemented by proper medicinal treatment, is the best prophylaxis. Sedatives and other measures tending to calm agitation are necessary. In most of these cases conium is indicated. Opium, and not chloral hydrate or the bromides, will, as a rule, be found of most value in a majority of cases. In hysterical and epileptic cases these latter remedies are indicated. In many of the hysterical cases *salix nigra* and monobromate of camphor give good results.

DR. WILLIAM AXFORD: I have observed this condition once or twice in old people. Last March I did a supra-pubic cystotomy and removed an enlargement of the prostate from an old gentleman of 79. For four days after the operation he was in a peculiar condition of delirium; there was no rise of temperature, no chill, nothing like sepsis, in point of fact it was an active delirium. The old gentleman was very smart; and he afterwards told me he had lost those four days entirely. I have always thought the condition was due to the influence of anæsthetics on the brain, but Dr. Kiernan informs me that the older physicians observed this phenomenon before anæsthetics were used.

DR. J. H. ETHERIDGE: During the month of June last, I took care of a woman in confinement; in the last of it ether was administered for three-quarters of an hour and delivery was effected with the forceps. The labor was particularly severe in every way and considerable laceration took place. After that etherization, she was delirious, and was not at all herself afterwards. She slept when night came, but throughout the whole of the time after that, while she lived, there was a sort of stilted, exalted condition of politeness about her that was entirely foreign to her. She ran along through the three days, so far as her puerperal condition was concerned, without a symptom arising, and on the fourth day she died, apparently from heart failure. I suppose this case would come under this head.

DR. JAMES G. KIERNAN: With regard to Dr. Axford's case, I remember on one occasion seeing a very similar condition result from the passage of a catheter in an old man who had some prostatic difficulty. The catheter was passed by a surgeon of considerable skill who became considerably alarmed at the denouement. The man passed into a state of exaltation and was difficult to manage; he insisted on going out and attempting to run a race. There is very little doubt that old men about the period of sixty are very easily upset by operations of this kind.

DR. ARTHUR R. REYNOLDS exhibited an
ACEPHALUS FŒTUS,
given birth to by a primipara, 21 years of age, at full term of utero-gestation. When called to the patient, I found she had been suffering moderate labor pains for about 24 hours, the abdomen was greatly distended, the os was fully dilated, and the membranes were well down in the vagina. I ruptured the membranes, passed my finger through the opening and found the foetus floating freely in the amniotic fluid. The character of the presenting part at once arrested my attention. I was quite undecided whether I had a head or a breach presenting, but was inclined to think it was the breach. While pressing the examination, the foetus made a violent and startling convulsive movement, and afterward continued to do so every time I touched the presenting part, the cause of which I did not recognize until after the labor was completed. The quantity of amniotic fluid was very large. It flooded the bed and ran down on the floor. After the water had escaped the uterine contractions became strong and expulsion was completed in half an hour in the second position. Notwithstanding the activity of the foetal movements I found, to my astonishment, that the child was still-born. The cord was small and pulseless and there were none of the ordinary signs of asphyxia.

The fœtus measures fourteen inches in length and weighs three and a half pounds. The rudimentary and brainless head rests immediately upon the shoulders, there being no neck whatever. The cranium and spinal cord are open as far down as the second or third dorsal vertebra, a condition that is characterized by the term *deranencephalia*. The fœtus is plump and well developed with broad shoulders and well rounded trunk and limbs, and it is of the female sex, all of which is the rule with this class of monstrosities.

The convulsive movements that startled me so in the beginning of the second stage, were evidently produced by my finger pressing directly on the stump of the brain and eliciting one of the signs of the acephalic fœtus. It was by this sign that Cazeaux was enabled to diagnose a fœtus of this kind before the membranes were ruptured, to the astonishment of the students at the clinic where the labor occurred. That the child should be born dead, when it was certainly alive half an hour before, excites a query as to the cause. Although my manipulations were by no means severe, I incline to the belief that death was caused by the pressure of the fingers upon the nerve centers.

DR. S. V. CLEVENGER: I remember ten years ago Dr. Roler described an anencephalic monster which he had delivered. He said he believed during delivery that from the rebound every time his finger touched the os, he had a monster of that kind in utero, because he had been just reading an article, in the *American Journal of Obstetrics*, of a similar instance. It is an important diagnostic indication.

Dr. S. V. Clevenger read a paper entitled: *The Origin of Sexual Perversions*.

Dr. J. G. Kiernan read a paper entitled: *Sexual Perversion as Illustrated by the Whitechapel Murders*.

DR. ARTHUR R. REYNOLDS, reported

A CASE OF SEXUAL PERVERSION—

that of a man who could have sexual relations only with women who had lost the right leg.

Dr. J. W. NELSON reported

A CASE OF SPONTANEOUS PYÆMIA.

I have entitled this paper "A Case of Spontaneous Pyæmia." The title should, perhaps, be followed by an interrogation point: *First*: Because some writers doubt that pyæmia can originate without a previous lesion of some kind; and, *Second*: Being unable to hold an autopsy (for the patient died), I was unable to confirm my diagnosis by finding multiple abscesses, or other signs of embolism that are usually present. I think, however, that the case was undoubtedly one of pyæmia, and if there is such a thing as spontaneous pyæmia, this would come under that head, for there was no history or sign of wound, bruise or injury of any kind. I submit the case not merely to put it on record, but to emphasize the necessity of care in diagnosing between such cases and acute articular rheumatism. For I was obliged to make a second diagnosis, and that is an unpleasant thing to do when your patient is in *articulo mortis*.

On August 8, 1888, I was called to see a boy seven years old, August P.; parents illiterate Germans; sanitary surroundings none of the best. I found him suffering with swollen joints, both ankles swollen, the right especially so. The left hip-joint was affected, the swelling being marked in the groin. The boy also complained of pains in the elbows and shoulders, but there was no perceptible swelling. Pulse, 140; temperature, 105 Fahr.; skin hot and dry; tongue moderately coated with light brown coat; respiration, normal. On inquiry of the parents, I found that four days previously the child, without prodromal symptoms, complained of chilliness, and that was followed by fever, and lameness and swelling of the ankles. The child had, according to their statement, been

perfectly healthy up to that time. About a week prior to the attack he had fallen into the lake and had afterward played all day in his wet clothes. During the first three days of the child's sickness, his bowels had been constipated, so the mother said, and she had given some Ayer's pills that had produced two copious and offensive stools. On the fourth day, the child being no better, the parents had sent for me, as above stated.

I made a diagnosis of acute articular rheumatism, ordered a tepid sponge bath, for the sake of cleanliness, then wrapped the swollen joints in cotton-batting, gave salicylate of soda, 5 grains, every two hours, and an opiate to relieve pain. On the following day I found the patient apparently improved. Pulse 115; temperature 103; perspiring moderately. To relieve the sensitiveness of the swollen joints, I ordered them rubbed gently with composition chloroform liniment, which was occasionally varied with an ointment composed of ʒij. of camphor chloral, ʒj. of lanolin. Under this treatment the pain and swelling subsided, with the exception of the right ankle which still remained much swollen and œdematous, the skin pitting on pressure; the pulse averaging 110 and the temperature ranging from 100 to 101. The color of the skin was almost natural over the swollen joints, being only slightly redder than normal.

On the fourth day of treatment, the patient complained of a dull pain in the region of the heart. Careful auscultation failed to detect any cardiac trouble or signs of pleuritic affection, but I ordered a mustard paste placed over the region of pain, which seemed to relieve it and the patient made no more complaints. The patient had occasional attacks of epistaxis. On the fifth day of treatment, the patient complained of nausea following the administration of the salicylate of soda. I lengthened the intervals between the doses from two to four hours and gave him tincture

chlorid iron, 10 gtts. every four hours, alternately with the salicylate. On the fifth day of treatment found the patient more lively, wanting to sit up in bed. Every day during my attendance there had been a slight rise of temperature in the evening. On the sixth day, ordered the salicylate discontinued in the afternoon and in its place a 5-grain dose of antipyrin.

On the following day, the seventh of treatment and the eleventh from the inception of the disease, I was sent for in great haste with the message that the boy was worse and that there was a "hole in his leg." I went immediately and found the child in a moribund condition, unconscious, pulse 160 and almost imperceptible at the wrist. Respiration rapid, a forced long-drawn inspiration and short expiration; temperature in axilla 114. On turning back the bed-clothes found them saturated with a thin sanious pus, and about three inches above the right external malleolus an opening through which the pus had made its escape. The child died about twenty minutes after I arrived.

On inquiry found that the boy had taken his supper sitting in bed. During the night he became restless and slightly delirious; as the morning came on his fever increased, till at eleven o'clock he became unconscious with peculiar labored breathing. The parents, being stupid, allowed this to continue an hour before sending for me. During the whole course of the disease there was no skin eruption and up to the sixth day no signs to give a suspicion of suppuration around the swollen joints. A careful examination of the beginning of the treatment failed to find any bruise or injury of any kind that might give rise to suppuration and then cause pyæmia.

DR. J. R. BRANDT exhibited a specimen of

BILIARY CALCULUS.

This calculus was passed by Mrs. B. on May 28, 1884. She weighed 250 lbs., height 5 feet 10 inches, age 55 years.

Menstruation ceased at 48; she had never had jaundice, but had suffered from constipation all her life. This calculus weighed 4 ounces and 15 grains, measures 4 inches in circumference one way and $3\frac{3}{4}$ another way: it now weighs 3 ounces and 5 grains. It consists of cholesterin with dark bile pigmentation at one end; there are three facets at one end and one large one at the other. The lady was treated five months previously for a similar attack, which was diagnosed as malaria, at which time I think she passed the portion attached to the largest facet.

Gall-stones are not a frequent cause of intestinal obstruction, for in 1,152 cases collected by Leichtenstern there were only 41, and of these only 10 recovered. It is more common in females than in males, and in women above 50 years of age.

The points of interest are: The case might have been diagnosed as typhoid fever, as all the symptoms were there except the petechia and epistaxis, both of which are not constant. Then the size of the calculus, which is one of the largest, and perhaps the largest, (if we could have secured the other part) ever voided *per vias naturales*. Its being originally a gall-stone which remained lodged at the end of the duodenum for at least five months, and been bathed by the bile until it reached its present size. The recovery of the patient, where there is recorded a death rate of 25 per cent. Dr. Pye Smith was the first to make a diagnosis by rectal examination, when the calculus was at the end of the ilium by finding a rounded tumor of exceeding mobility.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting December 10, 1888.

DR. JOHN D. SKEER, IN THE CHAIR.

DR. D. W. GRAHAM reported a case of
ABNORMAL APPETITE IN AN INFANT.

He showed a box of gravel-stones which a baby a year and a half old had passed

from its bowels at one time. There were more than a hundred, many being as large as a hickory-nut. So far as could be learned the child had swallowed them all the day before. The stones caused no symptoms whatever while in the alimentary canal. The child had a persistent inclination to eat stones, lime, mortar, plastering and like substances. It would secrete itself behind an article of furniture in the house and quietly pick off and eat the plastering till discovered; or in the yard it would in the same way pick the mortar from between the stones in the wall. This habit continued until the first teething was completed, since which there has been no such disposition. The only apparent departure from a normal condition of health during all this time was a waxy, semi-transparent appearance of the skin, especially of the face. There are several forms of depraved appetite given by systematic writers on the subject, this particular form—a desire to eat or swallow substances having no nutritive value—being called *pica*.

DR. GRAHAM also exhibited
A POCKET KNIFE WHICH A BABY EIGHT MONTHS
OLD HAD SWALLOWED,
and on the fifty-third day had passed *per rectum*. The knife was about three inches long. The bone-plates on the sides of the knife, as well as more than half of the two blades, had disappeared during the transit. The mother had given the knife to the child to play with. For some weeks laxatives were given occasionally. About the fiftieth day a swelling or lump was discovered by the parents in the right iliac region. They were advised to palpate the swelling several times a day. In two or three days the swelling disappeared, and the knife was passed in the condition shown. No symptoms were caused by the knife at any time. This case occurred in the practice of Dr. J. H. Graham, of Iowa.

DR. J. M. PATTOX reported the case of a child, two and a half years old, that had

swallowed a breast-pin, the head and its soldered attachment being about the size of a cherry. The mother was attracted by the child making a noise and efforts at swallowing. On examination the pin-rod was found wanting. No disturbance was produced, and the child was let alone. Two days thereafter it was passed from the bowels.

DR. W. L. COPELAND said with reference to foreign bodies being swallowed by children without producing any symptoms, he would say that some years ago a child was brought to him reported as having swallowed a nickel cent, which was much larger and thicker than an ordinary copper cent. The act was followed by slight irritation and coughing. The child had been examined by several physicians before it was brought to him, some of whom held that there was irritation of the stomach; others bronchitis. The case failed to yield to any kind of treatment. Shortly before this he had a case of stricture of the cesophagus, and this one was brought to him to have an cesophageal tube passed. He passed a tube of medium size without difficulty, but failed to find any obstruction. An examination of the stomach and lungs revealed nothing abnormal. The mother was instructed to bring the child back for a subsequent examination, and about a month elapsed before he again saw the case. The coughing had returned, in the meantime, giving the child a great deal of trouble. At the last examination he introduced a large tube into the stomach, and on withdrawing it the child coughed up the cent.

DR. A. B. STRONG said that cases in which foreign bodies had passed into the stomach should be let alone. Physic should not be given. The foreign body would come away after a while. He could recall several cases that had come under his observation, and one particularly, in which a child had swallowed a penny. He watched the case to see whether symptoms of stricture would

develop, but the child finally vomited the cent and recovered without having manifested any symptoms whatever.

DR. C. D. WESCOTT said that during his term of service as assistant physician to the Insane Hospital at Kankakee, a number of cases came under his notice. The most alarming one he had met with was that of a patient who ran to a window, broke the glass, pulled out some of the broken fragments, chewed and swallowed them. There was no doubt, he said, as to the patient chewing and swallowing the glass, for pieces were found in his mouth under the tongue. Nothing of a therapeutic nature was resorted to; and the patient had no symptoms.

DR. J. J. M. ANGEAR said that some physicians in cases of this kind wanted to give a child an emetic immediately. He would not do this, but the first thing to be done, in his judgment, is to have the child fed well with the coarsest kinds of food for the purpose of making as much fecal matter as possible, so that the alimentary canal would be greatly distended, thus including the foreign substance in the fecal mass; then after a sufficient time has elapsed for the feces to accumulate to a considerable extent, he would give a cathartic. He would agree with Dr. Strong, however, that the better plan is to let nature take her course.

DR. H. N. MOYER reported a case of
SUICIDE BY FIVE OUNCES OF PARIS GREEN.

The case was that of a man who, in a row, had fired from a window at his son-in-law; the latter in haste to get away had fallen backward just at the moment the pistol was discharged. The deceased then turned the pistol toward his own breast and inflicted the wound described. This attempt at suicide proving futile, he fled, and some days later, doubtless believing himself a murderer, he took the poison with fatal effect. This is one of the largest doses of arsenic ever taken, in all amounting to nearly five ounces.

DR. MOYER also reported a case of
FRACTURE OF THE FIFTH CERVICAL VERTEBRA.

A man was found lying in a depression some three feet in depth between the curbstone and side-walk, in an unconscious condition. The bottom of this depression was formed by loose dirt. Death took place some four hours afterward without return of consciousness. Rigor-mortis was well marked, and there were no external marks of injury or violence. On reflecting the scalp an irregular ecchymosis (about one and a half inches in diameter) was found on the vertex. The brain and other organs appeared to be perfectly normal. A slight inequality in the body of the fifth cervical vertebra was noticed, and when the head was grasped and tilted backward, a complete transverse fracture of the body of the fifth cervical vertebra was brought into view. The circumstances in this case pointed to the possibility of homicide, but the opinion was expressed that such an injury could hardly have been produced by homicidal violence, in the absence of more distinct external marks of injury. Further, that the fracture was probably caused by a fall from the side-walk down the slight depression where the patient was found.

PROFESSOR A. E. HOADLEY mentioned a case of dislocation of the cervical vertebra. The patient, a boy ten years of age, fell from a tree and struck upon his head, the distance being some seven or eight feet, and from that time on he could not move his head. After complaining of a good deal of pain, and his head being in a fixed condition for about a week, he was brought to him for examination. He discovered a well-marked dislocation between the third and fourth cervical bodies. The boy perfectly recovered. At first he concluded it was a dislocation, but subsequent examination had led him to doubt that conclusion and to rather favor the theory of fracture, as there was a well-marked provisional callus. He would take particular pains to examine the case again and

see if the provisional callus has been absorbed. There was no bruise noticeable on the boy.

DR. WESCOTT had seen one case of fracture of the fourth cervical vertebra in a woman whose weight was about 120 pounds. She fell upon her head a distance of some 10 or 12 feet. There were no marks of external violence. There was, however, a slight flow of blood from both the ears and nose, death occurring almost immediately.

DR. SKEER then read a paper entitled
A CASE OF OBSCURE DISEASE OF THE BRAIN.

Mr. B. F. L., a machinist, aged 54 years, five feet and eight inches in height, weight 155 pounds, was always considered a strong healthy man: born in New York; moved to Chicago in 1866. Never had any severe sickness; had a bronchial cough in 1876 which passed off in about six weeks. Last June he had a slight paralysis which came on imperceptibly and without shock. It was confined to his left leg. His face was drawn to one side for a day or two, and there was a slight impairment of speech. The paralysis of his leg passed away in about two weeks. The patient did not consider himself sick, but could not understand *why* he did not get well. In December, 1887, he took a journey to California and was absent three months. He did not enjoy the climate or scenery: was impatient to hasten from place to place. He had a voracious appetite—seemed to be hungry all the time. He had to be restrained as to the kind and quantity of his diet: was well nourished. He could not control his emotions; he would cry at common ordinary events, and sometimes cough inordinately at little things, and keep it up for a considerable time. This much of his history I have obtained from his wife and brother. I examined him for the first time about 1st of September last, when he walked to my office and home again, a distance of fourteen blocks. He had all the appearances of a man in good health, and

did not complain of any pain or indisposition. There was, however, a very slight paralysis of the left leg and arm. I found on examination, moderate hypertrophy of the heart; no history of rheumatism; pulse about 90, full, hard and regular; temperature subnormal; tongue clear; appetite good—too good. Bowels were regular, and urine normal. My diagnosis was either a slight hæmorrhage or a tubercle, fibroma or carcinoma of slow growth, the brain accommodating itself to the pressure. I made an unfavorable prognosis. Ergot and bromide of sodium were prescribed. On the 20th of September he was down to his place of business, came home in the evening and ate a hearty supper, and was soon thereafter taken with violent retching and vomiting, and ejected all the ingesta he had taken for his dinner and supper. Pulse was 100, full, hard and regular; temperature subnormal; eyes turned toward the left side; pupils normal; was somewhat unconscious, but could be aroused so as to answer questions intelligently. No pain was complained of in the head; although temporal arteries were dilated with dark blood.

The patient was given full doses of calomel, bismuth, pepsin, and magnesia, ordered in the morning. Medicine acted freely on the bowels; eyes straight; pupils normal, responding to the action of light. Tongue protrudes straight. Pulse 110, full, hard and regular; temperature subnormal; nausea and vomiting continues; no increase of the old paralysis.

22d. Not so much vomiting; mind clear; no pain in the head; has that peculiar cephalic sigh so characteristic of diseases of the brain. Carbolic acid and lime water given up to the 25th, when the vomiting ceased.

On the 26th the pulse was found to be full, hard, and regular; temperature 1.2 subnormal; eyes straight; pupils normal and respond to the action of light; no pain in the head; patient is conscious and

recognizes his friends when they call to see him; no increase of paralysis; he rolls himself in the bed from side to side and seems to use his left about as well as his right side. He has an occasional deep cephalic sigh. He has no thirst, but takes milk as food and drink. Prognosis unfavorable. Diagnosis uncertain.

On the 27th, Dr.——, an old friend of the family, was called in consultation and advised the use of Norwood's tincture of veratrum to diminish the frequency of the pulse and take off the blood pressure from the brain. Gave five drops every hour till the pulse was reduced to 80, then every two hours.

28th. No change in his general appearance; pulse 80; temperature $2\frac{1}{2}$ subnormal. No special nervous symptoms, such as twitching of the muscles.

30th. Pulse 100; temperature $1\frac{1}{2}$ subnormal; patient losing strength; is quite conscious; eyes normal; pupils respond to light; no pain; takes milk when it is offered to him; is restless and has had but little refreshing sleep. Cephalic sigh every fifteen or twenty minutes. The veratrum was given occasionally during the day and hydrate of chloral in ten-grain doses during night to procure sleep and quiet his restlessness. From this time up to the day of his death, there were no special symptoms other than those that have been given, except a gradual diminution of strength caused by some obscure disease of the brain.

Dr. Skeer desired to emphasize the condition of the patient on the 5th of October. He was conscious, pupils normal, and responded readily to the action of light. There was no increase of paralysis, the patient seeming to use his left as well as his right side. Muscular movements, however, were somewhat impaired. Death occurred on October 7th, at 7 p. m., apparently from exhaustion of the brain, with a group of symptoms that he could

neither analyze nor formulate with any degree of certainty.

Post-mortem examination. There was nothing abnormal in the appearance of the upper surface of the brain. Some of the puncta vasculosa were very large; one small artery on the right side, when cut off on a line with the upper surface of the corpus callosum, stood open. There were about two drachms of serum in the ventricles and about four at the base of the brain. A blood cavity was found in the inner, upper, and posterior portion of the right hemisphere of the cerebellum, which was lined with a thin membrane and filled with serum and a clot of blood. The center of the right corpus was slightly softened. No tubercle, fibroma or carcinoma was found, nor even a trace of inflammatory action. The patient died from exhaustion of the brain, its nutrition having been cut off by general atheromatous degeneration of the cerebral arteries, which was the first link in the chain of morbid action, was the cause of the hæmorrhage and the softening of the corpus striatum, and readily accounts for the cerebral anæmia, the absence of pain in the head, and the subnormal temperature.

In reply to Dr. Angear, Dr. Skeer said the respirations were slow.

DR. ANGEAR: If we interfere with the action of the pneumogastric nerve we always increase the action of the heart, diminish the rate of respiration, and lower the temperature. If we have both an increased pulse and respiratory rate, and an increased temperature, all in due proportion, then we have no particular evidence of cerebral trouble. But if we get that "see-saw" arrangement, one going up while the other goes down, it is reasonably certain that there is interference with the pneumogastric nerve, and I think that in Dr. Skeer's case had the respirations been counted as accurately and persistently as that of the pulse, we should have found

that they were far below their normal proportion.

GYNÆCOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, November 16th, 1888.

THE PRESIDENT, CHARLES T. PARKES, M.D.,
IN THE CHAIR.

PROFESSOR A. REEVES JACKSON read a paper on

SOME UNCURED CASES OF UTERINE HÆMORRHAGE.

I desire to report the histories of some of the cases in which I have failed to cure a rather frequent ailment—uterine hæmorrhage.

Case I.—Mrs. F. W. first consulted me on July 7th, 1884. She was 28 years old, and had been married two and a half years; no pregnancy. Menstruation commenced at the age of sixteen, and had always been regular and in every way normal down to the time of marriage. After that event, a period occurred at proper time. The patient then missed two periods. After lifting a heavy weight, a flow of blood appeared and continued for several weeks. She visited Dr. Wm. Goodell, of Philadelphia, who curetted the uterus in May, 1883. I do not know what, or whether anything, was removed, but the patient considered herself well for four months. In the following autumn, two periods were again missed. After a trifling misstep a red flow began, and continued about one-half of the time for nine months; then I saw her. She was a large but not tall woman, weighing one hundred and sixty-two pounds, of dark and rather dull complexion, and habitually despondent temperament. There was no history or present evidences of any disease of important thoracic or abdominal organs. The pelvic viscera were found to be entirely normal in size and position. The os uteri was rather small, but of virginal shape, and free from redness or erosion.

On July 9th, I administered ether, and curetted the uterine cavity. A few fungous granulations were removed, and an application made of Churchill's iodine solution. This latter was repeated every four to seven days. For about three months menstruation appeared at intervals of four or five weeks, rather profusely, and lasting from seven to ten days. Then the inter-hæmorrhagic periods became shorter—about three weeks. During the spring of 1885, the intervals were about two weeks; once only nine days intervened. In the early part of 1886, the flow was more irregular, recurring every three to six weeks. In July, however, it appeared after an interval of two weeks and lasted three weeks, not profusely but constantly. In August following, I again used the curette, without any result. Nothing was removed, and no change was produced in the symptoms. In June, 1887, the same operation was followed by a like negative result. A month later, my connection with the case ceased. During the time of my attendance (which was not continuous, but interrupted sometimes for periods of several months) the treatment consisted in efforts to overcome habitual constipation, and the intra-uterine application of iodine, carbolic acid, a solution of ferric alum, etc. These applications were always preceded by the introduction of a No. 12 bougie. There were two unfavorable conditions present in this case which I could not obviate. The one was tight-waist dressing, and the other an insuperable objection to active exercise.

Within the past few days the husband of this patient called upon me and stated that the subsequent history of his wife presented no material change; that, at times, she seemed better, and then became worse again. She is now under the care of a prominent physician of this city, and is thought to be improving.

Case II.—Mrs. E. D. placed herself under my care January 22d, 1885. She was a Jewess, had been married three

years, and was never pregnant. Menstruation began at twelve, had never been distinctly regular, and for many years was rather scanty. During the past year, however, the discharge had recurred with greater frequency than ever before, the interval being less than four weeks, and it had become shorter and shorter, while, at the same time, the quantity of discharge at each period had steadily increased. During the month immediately preceding my first interview with the patient, there had been three attacks of flowing. There was no evidence whatever of cardiac, pulmonary, hepatic, or renal disorder. The patient ate well, slept well, and felt well. She was only annoyed by the frequency of the bloody flow. A pelvic examination revealed no abnormal condition, position, or shape of any of the organs. The single disordered symptom discoverable consisted in a discharge of dark blood which was seen slowly oozing from the os uteri. The introduction of the sound was easily accomplished and was followed by a rather profuse flow of redder blood.

Two days later, under ether anæsthesia, the cervical canal was moderately dilated, and the interior of the uterus curetted. A small number of fungosities were removed and the uterine cavity swabbed with Churchill's iodine solution. On February 20th, a bloody discharge appeared, and continued more or less profusely until March 14th—three weeks. I then made an application of Monsel's solution of iron. The discharge ceased for two days; it then reappeared and lasted to March 23d—seven days. I again dilated the cervical canal and passed in a curette, without removing anything, and applied the iodine solution. There was no discharge for eight days subsequently. Then a flow which seemed like that of menstruation appeared. It lasted five days, ceased two days, reappeared and continued with occasional intervals of one or two days until April 23d, when it became profuse and

seemed like menstruation again. After a few days the flow diminished, but a red-dish-tinged oozing continued until a more profuse flow indicated the return of catamenial discharge. On November 9th, the patient reported that the longest time she had been free from bloody discharge was four days. During all that time, I had availed myself of frequent opportunities of making local applications of iodine, carbolic acid, Monsel's solution, alum, fused nitrate of silver, etc. Also, I had given quinine, ergot, and viburnum, and on several occasions I had gently dilated the cervical canal, and tried to get away something with the dull curette.

No especial change was noticed in the symptoms in the summer of 1886, during which time all treatment was suspended. In January, 1887, the patient informed me that once only she was free from hæmorrhage for a period of three weeks. Treatment was then resumed. I introduced a tupelo tent and followed the dilatation by a very thorough application of iodized phenol. This was repeated at intervals of from five to seven days for several weeks. There was no improvement. Then I tried nitrate of silver for awhile, but the hæmorrhage continued. In the summer of 1887, the patient went to Europe with her husband, and for a few weeks while there she was somewhat better. In the following autumn, however, after her return, the hæmorrhage was as constant as before. On December 23d, I dilated the uterine canal mechanically under anæsthesia, and removed two large granulations. She died one week later of peritonitis.

Case III.—Mrs. W. L., aged 35 years, had been married seven years, and had two children, the younger being sixteen months old. I saw her on September 5th, 1885. When the baby was ten months old, menstruation appeared, and for two periods was quite normal, lasting four days. The third came a week too soon and lasted two

weeks. After an interval of two weeks it again appeared, and when it had persisted ten days, necessitating two or more napkins daily, she applied for relief. She then showed effects of the loss in pallor, impaired strength, and enfeebled digestion. The baby was weaned, and the patient took strychnia, quinine, and arsenic. I found no pelvic cause for the hæmorrhage unless it might have been a slight degree of sub-involution.

The uterus was freely movable, in normal position, free from erosion, and there was no swelling or undue tenderness in the region of the ovaries, tubes, or broad ligaments. Constipation was present, and I prescribed salines and a regulated nutritious diet. Subsequently, the hæmorrhage continuing more or less constantly, although not profusely, other means were tried, many of them rather empirically. They included ergot, hydrastis, viburnum—all without perceptible effect. Then I dilated the cervical canal and explored the interior of the uterus with finger and curette. Nothing was found.

After about eight months, the patient placed herself under the care of an electrician, who treated her for nearly six months. Then she went to Cincinnati, and remained several months under the care of a distinguished gynecologist. She returned to me in January last, and stated that she had not at any time been more than ten days without a bloody discharge, and rarely more than three days. The menstrual periods were distinguishable by the more profuse flow which marked their presence, and they were fairly regular.

Once more I dilated the cervix under etherization, and drew a curette over every part of the intra-uterine surface, taking especial care to get the instrument into the cornual depressions. No tissue was brought away, and very little blood. I subsequently made internal applications of tinct. iodine, tannin, Monsel's solution, and once, at the close of what seemed to be a

menstrual period, I applied nitric acid. While, at times, there was a diminution of the discharge, the improvement was only temporary, and in July last she again passed from my care.

Case IV.—The notes of the following case were kindly furnished me by Dr. J. H. Stowell. M. M., a single woman, 25 years of age, was born in Canada. Menstruation commenced at twelve, and was quite regular until she was nineteen; then the flow became prolonged, lasting sometimes five or six weeks. This was followed by regularity, both in quantity and times of recurrence for a few months, when menorrhagia again appeared. At the age of twenty-two she was examined by a physician at Ottawa, who curetted the uterus, with what immediate result is not known, but the patient was free from all sanguineous discharge during a period of three months. Menstruation then returned and was regular and in every respect normal for the following four months. Becoming menorrhagic again the curetting was repeated, with the same temporarily beneficial results as before. Again after a few months, the flow became profuse and a third curetting was made six months after the second, the latter time without apparent benefit.

The patient removed to this city and came under the care of Dr. Stowell, with whom I saw her in the early part of the current year. On January 21st, after thorough dilatation of the uterine canal, I curetted very carefully, removing a small number of granulations. The operation was followed by the application of Churchill's iodine. For two months subsequently there was no bloody discharge. Then it reappeared, and Dr. Stowell informs me that he has continued to treat the symptom in a routine manner locally and generally, but without satisfactory results. Latterly this case presents a curious feature: the flow is very profuse every alternate month, and normal the other.

It will be observed that in the foregoing cases there were some features common to them all. Thus, in none of them did the hæmorrhage take the form of rapid, profuse flow suddenly exhausting the patient, as we not infrequently notice in cases in which the discharge depends upon an abortion, or upon the presence of cancer or fibroid neoplasm. On the contrary, the evil effects produced were the result rather of the persistence of the discharge covering long periods of time. Again, in none of them was there evidence of disease of the lungs, heart, liver, kidneys, or other important organs causing a depraved condition of the blood or pelvic plethora. In none of them was there a history of hæmatocele, pelvic inflammation, or detectable pelvic swelling. In none of them was there any displacement or flexion of the uterus, or dislocation of the ovary. Indeed, in none of them could I determine a sufficient local or systematic cause. I have thought that possibly some such cause might exist in disordered condition of the Fallopian tubes or pelvic cellular tissue not ascertainable by our present known methods of investigation.

Being aware of the influence of malarial poison in producing congestion of the abdominal and pelvic viscera, including perhaps the mucous membranes, I have not failed to take this possible etiological factor into consideration and to make careful inquiry with the view of ascertaining its existence. The result in each case was wholly negative.

Dr. D. T. NELSON: I cannot say that I have seen just such cases; I only regret that the doctor was not able to follow the cases even longer. One died; I would like to know if there was any post-mortem examination. Perhaps the cause of death was such that it would hardly be satisfactory if there were a post-mortem. It seems to me that the only way we can arrive at a conclusion as to the nature of the disease and consequently the proper method of treatment, is to follow them longer. One

case that I have seen, I was fortunate enough to see one or two years after a somewhat similar experience by other gentlemen, in which nothing was reported to have been found, in which there was curetting; but as I saw it subsequently there was plain evidence of fibroid tumor. Perhaps if these cases were seen longer or examined post-mortem there would be a satisfactory explanation of the persistence of the hæmorrhage. I think one of the small single or multiple fibroid tumors, which cannot be detected by the most skillful finger, or by any means of examination that we have at present, are likely to produce such results, and I believe they may lie dormant for a longer period than these cases have been observed; I am quite sure that I have seen them—and eventually, perhaps of their own nature, develop so as to be found; perhaps from some exciting cause other than that. There is another cause, it seems to me, for these hæmorrhages, concerning which I can hardly speak rightly: Will disease of the Fallopian tubes produce hæmorrhage from the uterus? I do not mean by that a salpingitis that will fill the tube with pus or serum, and be so large as to be easily felt, but actual disease of the mucous membrane, perhaps not extending much deeper than the mucous membrane, but capable of producing a continuous hæmorrhage. I simply throw this out as a hint, as a possible explanation, for further examination. Perhaps it is not a parallel case, and yet it seems to me that there is a similar cause. A woman after menstruation, if you please, a week after the cessation of the menstrual period, takes cold. has a slight cough, has a traumatism or some slight disturbance in the pelvis giving pain and other evidences of inflammation; we all know that one of the most common symptoms attending upon the pain, etc., is hæmorrhage from the uterus. Not a severe one, perhaps, but a slight flow. You may say that means congestion of the whole pelvic viscera. True, it ordinarily does. But

what does produce the uterine flow? Is it the uterus alone, is it the ovaries alone, is it the broad ligaments only, is it the Fallopian tubes and the uterus, is it the Fallopian tubes only? It does seem to me in some instances that it is not only the uterus, not only the broad ligaments and vascular structures about the uterus: but that the Fallopian tubes and ovaries have very much to do with this condition. I believe if these cases were observed long enough, we should find a congestion of the uterus produced by a fibroma or sarcoma, or disease of the Fallopian tubes or ovaries, and pre-existing disease of the ovaries and tubes produce hyperæmia of the uterus that favors the development of fibroma and sarcoma.

PROFESSOR C. T. PARKES: A case was recently reported in one of the foreign journals where all these remedies were used: curetting and intra-uterine dilatation, and finally the surgeon concluded he would make an abdominal section. After making the section, he found what he reports as a cavernous angioma of one of the ovaries. It was removed and the case cured.

DR. ROBERT TILLEY: It is my special interest in the last case reported by Dr. Jackson that has given me the honor of being present this evening. The reason why the patient came more or less under my observation was this: A distant relative, who is an intimate friend of mine, had been instrumental in bringing the patient here from Canada, and was a good deal concerned about the fact that she was not any better. She came to me for general counsel as to what would be the best course for her to adopt under the circumstances. I advised her to get letters from the doctors who had been in attendance on her and to send them to her parents, with the supposition that they would consult with the family physician who had previously curetted the uterus. Meanwhile, the patient was flowing considerably, and she asked me if I would not give her such general instruc-

tions as would enable her, at any rate, to be freed from a certain amount of anxiety which she necessarily would be under apart from that. I said that under those conditions I would, with the understanding that if any serious symptoms developed I should not think of taking charge of the case. I resorted to turpentine, 10-drop doses in an emulsion, and after she had taken two doses of this turpentine, there was a sensation of strangury, and it was stopped for one day. With that strangury there was a manifest diminution of the flow. I concluded that it was fair to infer that the organs in the pelvic regions were, in all probability, susceptible to the turpentine, and I recommended its use in smaller doses and added to it some camphor water. She continued to use the turpentine, and the flow continued to diminish; there was no longer any sensation of strangury after she had used the camphor water in conjunction with it, and on Saturday last I was informed that the flow had ceased altogether. She called at my office, and I found that the pulse, which had been previously 100, was reduced to 80, and the peculiar sensation of palpitation which she has complained of as existing before was almost completely removed, and she was feeling in every way a good deal better. I heard from her again on Tuesday, she was then on her way to one of the suburbs, with the understanding that I should hear from her again tomorrow. I feel satisfied that the flow has not returned, otherwise I should have heard. The use of the turpentine seems to have had the special advantages of securing, at any rate, a temporary cessation of the hæmorrhage.

PROFESSOR JACKSON: These cases I have reported are not the only ones which I have failed to cure, but I had accurate notes of these, and I considered them sufficient for the purpose of bringing the matter before the society. The existence of fibroids as a probable cause in some of these cases, as suggested by Dr. Nelson, had occurred to me.

The question of possible pregnancy also arose, and I made such inquiries and investigations as I hoped would lead to a settlement of the latter point especially. We know that in fibroid growths of the uterus hæmorrhage becomes by-and-by a prominent symptom, and usually it is the one which first calls the attention of the patient to her condition; and in these cases we usually have no trouble in the diagnosis where there is present either a polypus or a fibroid of sufficient size to alter the shape of the uterus or to be felt within the cavity of the organ. I can conceive how a very small fibroid, incapable of detection by ordinary methods and ordinarily skilled hands and fingers, might produce hæmorrhage, but would it yield to the medical treatment of a fibroid? If it did not, we should hardly feel justified in making a laparotomy to discover the existence of a fibroid that presented no other evidence of its existence than hæmorrhage. It is true that patients nowadays submit to laparotomy when they are urged to do so; yet the one who urges should have some kind of objective reason upon which to base his advice. In none of these cases could I detect any change whatever in the shape of the uterus. The fact is that, when we find a fibroid as the cause of hæmorrhage, it is already surgical. It is large enough sometimes to have existed, with their slow rate of growth, for many years, and yet hæmorrhage has probably not been present until the latest part of the history.

Disease of the Fallopian tubes I have no doubt is a frequent cause of persistent uterine hæmorrhage. Primarily, the blood may have its source in the tube; later, by overaction—by the mere bleeding—there is produced manifest disease of the endometrium, as in the case last cited. But, granting this, inasmuch as we can only reach the uterine lining anyhow by our topical treatment, even if we have a suspicion that there may be tubal disease, it does not aid us in deciding what to do

for it. The ethics of the condition are in doubt.

Allusion has been made to the death of the third patient. She died of peritonitis following the operation. I have reported it in order to call attention to the danger of what is usually considered a simple and safe operation. In this case, the operation was done under the strictest antiseptic precautions; every care was taken to avoid any danger from that source. Unfortunately, I was obliged to leave the city shortly after the operation, leaving the patient in an unsatisfactory condition, temperature 102° , rapid pulse, red cheeks, and evident high constitutional excitement. On my return I found her still worse, and shortly afterwards she died of peritonitis, whether septic or not I do not know. The dilatation was mechanical; was not made by tents, which I consider a dangerous method of treatment.

I did not mention in the paper an important fact in the subsequent history of the last case. It was this: During the last examination I made, I detected a distinct swelling at the side of the uterus, apparently in the Fallopian tube. Then I suggested that if the patient did not get better, here was a reason why we might properly make a laparotomy—not for the hæmorrhage, but for the swelling which was possibly the cause of it. The curetting on three occasions certainly had a very satisfactory effect. On one occasion, for four months subsequent to the operation, the patient had no bloody discharge whatever, natural or unnatural, which would seem to indicate that, at that time at least, the cause of the hæmorrhage was in the uterus, and that the effect of the remedies applied more thoroughly after the dilatation had a controlling influence for a long time. This is very satisfactory to a patient who has been having a profuse or prolonged hæmorrhage. This patient was under the care of excellent men in Canada, who, so far as I know, never detected any swelling,

and I infer from this fact that the latter symptoms were of comparatively recent appearance.

The nitric acid, which I applied in one case, I formerly used a great deal more than I do now. My method of using it is that recommended by Athill some years ago. The uterus is previously dilated, and when sufficiently open, the pure nitric acid is passed into the uterine cavity on an ordinary cotton-wrapped applicator. I place the patient on her back, introduce a perineal depressor, seize the anterior lip of the uterus, draw the organ down, and surround it entirely with cotton which has been dipped in a solution of bicarbonate of soda. The applicator is dipped into the acid, passed into the uterine cavity, and held there for a few minutes. It is then withdrawn and the vagina syringed until all fuming ceases. Then I remove the tampons from about the cervix, and another tampon saturated in glycerin is placed over the os uteri. Such was the method used in this case. The nitrate of silver I applied in this way: A few grains of the crystal are melted in the bottom of a test tube. A silver uterine probe is dipped into the fluid and withdrawn a few times, until a bead is formed on the end of the instrument the size of a grain of rice. This is passed through a speculum up into the interior of the uterus, and held there for a few minutes, and slowly drawn out so as to come in contact with the surrounding membrane. This method has been recommended as very effective in chronic cases of menorrhagia. The hydrastis I have used a good deal. Loewenthal has reported several cases in which he had used hydrastis for preventing menstruation absolutely in persons to whom it was injurious; chlorotid and anæmic patients, he affirms, have been effectually cured by the use of hydrastis, given so as to absolutely obliterate the function of menstruation.

Ergot I have not found to be beneficial in any condition of the uterus involving

hæmorrhage, unless it be subinvolution during its soft stage where the uterus is large and heavy. In those cases I believe ergot is an excellent remedy. That condition was not present in any of these cases. Whether in one of them the cessation of menstruation for two months indicated pregnancy, I do not know, but there was no other evidence of it; there was no fœtus observed; nor was the history that of an early abortion, so that the single symptom of absent menstruation in a woman who was irregular at times was not so significant as it might be under other circumstances.

DR. ADDISON H. FOSTER read a paper entitled

A CASE OF HYDRAMNION.

December 11th, 1875.—Mrs. W. English, aged 27, was taken in premature labor at the eighth month with her third child. On my reaching the case, the abdomen was found enormously distended, the pains regular but feeble; the os fully dilated; the membranes intact but firm; the presentation doubtful. In the interval of pains the finger was carried high up as possible anteriorly upon and through the sac, and held there to retard the discharge of the fluid, in order to prevent prolapse of the cord and sudden emptying of the uterus, and to lessen the danger of hæmorrhage.

The patient being upon an oil-cloth, scantily covered, a large empty tobacco pail, holding fifteen quarts, was seized and held under the overhanging cloth, until it was filled brimfull with normal appearing amniotic fluid; some fluid was lost in the bed and on the floor. With three or four pains, a small well-formed but immature child was expelled, that lived but a few hours.

The placenta was adherent on one side, requiring forcible digital separation from its site. It was small, being thin and fibrous on the adherent side. There was no unusual hæmorrhage following, as the uterus contracted firmly and remained so. The

patient made quite a prompt and normal recovery.

There had been very little œdema of the limbs and no history of suffering from unpleasant symptoms, excepting from the distention which came on principally the last two months. Her former labors had been normal. There was no history of any *specific* disease.

I made no test or examination of the fluid or microscopical investigations of the placenta, as would now be done, with an awakened interest in the various placental phenomena met with. Hence, I am not prepared to demonstrate the causes in this case, but I wish simply to place it on record as one more contribution of its kind.

Authorities are not well agreed upon the etiology of this disease. Most authorities regard hydramnion as a disease of the fœtus or its membranes, and look there for its cause. Landois and Stirling state that "in the pathological condition of hydramnion, the blood-vessels of the uterine mucous membrane secrete a watery fluid" (p. 882, 2d ed.). According to Charpentier, one of these three (3) kinds of lesions are usually present: "1st. Those of a supposedly inflammatory nature. 2d. Fœtal malformations. 3d. Lesions of the uterus, or tumors of various kinds. Among the inflammatory are found degenerations and adhesions of the placenta, to which category our case evidently belongs. The same author states that the following facts have been proved by various observations:

1st. Dropsy of the amnion coincides very frequently with twin pregnancy.

2d. That children born with the complication of dropsy of the amnion are often the subjects of malformations and monstrosities.

3d. That a certain number of these cases are syphilitic.

4th. Hydramnion is very rare in primiparæ and comparatively rare in second pregnancies.

This case developed it at her third pregnancy.

From the cases on record, the amount of fluid that has occasioned trouble varied from ten to sixty pounds, as a rule, though five pounds have occasionally done so. In the case I have cited the amount could not be far from forty-five pounds.

In regard to the prognosis, that for the fœtus is always very serious. For the mother, not so serious, except in acute hydramnion, although the danger of uterine inertia and hæmorrhage in all cases is considerable,

DR. SAWYER: The senior Dr. Byford, in the early history of this Society, called attention to the fact that hydramnios was frequently associated with monsters or the acephalous fœtus. That statement called to mind that I had seen two or three cases of spina bifida that contained enormous quantities of fluid, and it occurred to me then that the arachnoid membrane, which is open in the acephalous fœtus, is capable of secreting an enormous amount of fluid. Is it impossible that the fœtus does really contribute most of this fluid? I have seen one case of hydramnion with a woman pregnant for the third time.

I remember one case—the one I have already alluded to—in which labor that I thought was surely begun was greatly interfered with by the feebleness of the uterus, due to its great distention, and in that case I introduced a catheter through the cervix high up and drained off all that I thought necessary, withdrew the catheter and there was no further drain, and the labor progressed rapidly and favorably to the injury of neither mother nor child. It is a simple thing to put a male catheter, when the os is patulous, as high up as you please, and rupture the membrane and tap the amniotic sac high up.

DR. A. H. FOSTER: In regard to the treatment of this case, I attended her in her second pregnancy, and was not aware

of her third until I was called and found her in the condition I did, as she did not expect to have to call me for another month, so I had to act at once. I should think that the idea of aspiration would be a good one. If I should be called to a case early enough and find these conditions, I should be very happy to have Dr. Earle with me to try the experiment.

DR. EDWARD B. WESTON read a paper entitled

A NEW PROCEDURE IN CASES OF ANTICIPATED COMPLETE RUPTURE OF THE PERINEUM.

On October 4, 1888, I was, for the fourth time, called to attend Mrs. H. in labor. She is a woman somewhat below the average size, and has rather a narrow pelvis, while her children are all large at birth. At the birth of her first child, a boy who weighed twelve pounds, she received a complete laceration of the perineum. The second child, also a boy, weighed nine and one-half pounds, and the perineum was torn to the anal sphincter. The third pregnancy was terminated in the sixth month by unknown cause. The child was of course small, but delivery took place very rapidly, and there was again a rupture, though not to the same degree as in the second labor.

On visiting the patient at the beginning of her last labor, an examination showed a well-restored perineum, and a child seemingly very large presenting in the first position.

Meditating over the situation, remembering what had taken place in her previous labors, I feared a complete rupture would again occur, however well I might apply the various methods or procedures for protecting the perineum. The thought came to me that it would be well to introduce a deep suture before the laceration occurred, and before the head began to press upon the perineum, so that if complete rupture did take place I should have one suture already in place, by means of

which I could easily bring the parts into accurate apposition, and which could in a measure be used as forceps or tenaculum, and be of great service in whatever after-operation might be necessary. I could see no objection to the step; so with a long curved needle I introduced a silk suture a little more than half an inch to the right of the anus, and carried it up about an inch and a half in the recto-vaginal septum, and brought it out on the left side at a point corresponding to its point of entrance. I left either end six inches long and tied them together. Again there was a laceration, though not a complete one. The child, a boy, weighed eleven pounds. Objections will, of course, be raised to the procedure which I have suggested. Let us consider a few of them.

One objection will be that we cannot tell when we are to have a complete rupture. We cannot always know in advance, and here the unexpected often happens. But in some cases we feel very sure it will occur, and it is in these cases that the stitch should be introduced. And in cases of doubt the stitch had better be placed, as it will in any event do no harm. Another objection may be that, if rupture should take place, we cannot tell what direction it will take. In the great majority of cases, externally, the laceration occurs, practically, in the median line. So that whatever its internal course may be, all the advantages claimed for the stitch will be obtained. Again: that should the procedure be recognized as proper in certain rare cases, it will be abused by too frequent use. And that, with the stitch in place and with confidence in the future assistance to be derived from it, our vigilance in protecting the perineum might be relaxed. To these objections we can only say that the conscientious accoucheur would not be influenced by them.

Some will suggest the danger of sepsis. We do not believe this need be feared. If antiseptic precautions have been observed,

and the stitch buried in the tissues through its whole length, the increased danger will be nil. If, fortunately, rupture does not occur, the stitch can be cut short at one side, withdrawn, and no injury will have been done. Others will say that, even should complete rupture take place, the physician should be skillful enough to repair it by some one of the old methods. This is true; but the fact remains that there are all degrees of surgical skill, ranging from no skill to that of the highest degree.

It may also be said that the obstetrician who would introduce the stitch before laceration occurred would be the very one who would have least need of it afterwards. We grant it. But the majority would prefer to have the stitch in place, rather than to begin repairs without it, the parts being not only lacerated, but often so contused, swollen, or retracted that their normal relations can scarcely be made out.

If, by the procedure suggested, some one may be enabled to repair a complete laceration of the perineum, which otherwise would be left for a gynæcologist to repair after the patient had suffered, mentally as well as physically, for weeks or months, we think it cannot be objected to. And however expert an operator may be, it is true that the easiest, simplest way of obtaining a desired result from operative procedure is the best way.

DR. H. P. NEWMAN: I would suggest as a substitute for this manner of procedure one that has long been in use, namely, episiotomy, or bilateral incision of the vulva. It has served me well in one or two instances. It has this obvious advantage, that it allows of tearing laterally in such a way as not to injure the perineal muscles, or injure the recto-vaginal wall. In this way we can also prevent complete laceration, where some tearing is inevitable. I should regard Dr. Weston's method as a most admirable means of placing the initiatory stitch, where rupture seems imminent,

although I cannot see how it could well obviate the tear.

DR. E. W. SAWYER: The slight lateral incision, or episiotomy, does often prevent the laceration from occurring in the median line. I have made these incisions, one on either side, in nearly every forceps case in primiparæ, and I never saw the least harm come from it. In some instances, when I thought the perineum would be extensively torn, the laceration was really very short and insignificant. I think the suggestion of Dr. Weston is most excellent; it is in exemplification of the old axiom that a stitch in time saves nine, and I, having attempted to repair an entirely lacerated perineum more than once immediately after parturition, know something of the difficulty of introducing a deep, properly applied suture and if I could have the first suture introduced when the parts were in their normal relations, I should consider that I had overcome the greatest obstacle in immediate repair. I do not see one objection to the introduction of the suture.

DR. JACKSON: The two incisions should not be lateral but diagonal, so as to pass about one-half inch on either side of the fourchette directly outward, going beyond the rectum on either side. I have never used it, but it seems to me that in a case where complete laceration seemed inevitable it would certainly be a preferable procedure to allowing the perineum to rupture. I did not understand Dr. Weston to say that the stitch recommended by him would prevent the laceration, but that it would aid in its repair, and from this point of view I regard the suggestion as a very valuable one. It would certainly simplify the primary operation for rupture of the perineum.

DR. E. B. WESTON: I have nothing further to say, except that I did not propose, as was intimated by the first speaker, taking this stitch to prevent anything at all. It was not suggested as a preventive, but simply as an aid, in case a laceration should

take place after all you had done, whether by episiotomy or any other method which you could think of, in bringing the parts together.

DR. BAYARD HOLMES presented specimens of

CULTURES OF BACTERIA FROM THE URINE OF A CASE OF NEPHRITIS AFTER SCARLET FEVER.

The specimens are of such a character that while they may not be in themselves particularly interesting, I hope they are of sufficient account, in connection with the paper I wish to present at the next meeting, to deserve a moment's attention. My paper is upon the subject of "Secondary Infection in Acute Infectious Diseases of Children." One of the diseases that I treat of is scarlet fever, and as the complication that is perhaps the most alarming and serious in scarlet fever is nephritis, I have taken a good deal of pains in studying the subject. Through the kindness of a neighbor physician I had a chance to examine the urine of a case of nephritis after scarlatina, and to make a few cultures from it. On the first day that any symptom of nephritis was noticed there was a very large amount of blood in the urine and I took pains to collect some of it in a perfectly sterilized flask after the first part had passed away, so as to get it in as nearly a sterile condition as possible. I took it home and planted the sediment in a few tubes of gelatin. The gelatin in a very short time showed small colonies growing along the track of the needle. From isolated colonies, the second series of tubes was planted, and they begin to show a characteristic growth. Only one of the first series of six tubes remains sterile, and only two of them begin to show any signs of mixed infection. The remaining three tubes are evidently pure cultures of the *Streptococcus pyogenes* of Rosenbach. This is the microbe that produces the enlargement of the cervical lymphatics early in scarlet fever.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, November 5, 1888.

PRESIDENT J. H. ETHERIDGE, M.D., IN THE CHAIR.

DR. EDWARD B. WESTON read a

PLEA FOR THE USE OF ANÆSTHETICS IN OBSTETRIC PRACTICE.

I recently had a patient, who sometime before confinement, of her own accord, brought up the subject, and requested me not to give her chloroform. I briefly explained matters to her, but told her I should of course respect her wishes. Though if the matter were to be left to me I should give her the chloroform. When labor at length began, and the pains of the second stage grew harder and harder, she quietly said, "I think I *will* have a little chloroform." She had previously given birth to one child without an anæsthetic; but she now said were she ever to have another, nothing could induce her to do without chloroform. I speak of this case to show that prejudice is disappearing, and I believe that in another five years chloroform will be the rule as it now is the exception.

An anæsthetic should be given to prevent suffering, if for no other reason. We have all seen cases where the child was small and the maternal parts of ample room, where the patient to all appearances, and from her own statement, did not suffer much. But even in such cases chloroform would have added to the credit side of the account.

I once had a patient who had a small tumor to be removed from his forehead. Against my advice, he declined to take ether. He bore the operation without the least indication of pain; but when it was finished said, with a groan, nothing would induce him to again endure what he had suffered. So in labor, in cases where the patient exhibits real bravery, and appears not to suffer, the pain is so great that we should consider it our duty to, and just as

much expect to give an anæsthetic as if we were to perform a surgical operation.

I do not advise that all pain should be done away with—that from the first pain until delivery is accomplished not a pang should be felt. During the first stage chloral and opium find their place. But even then, if other means do not relieve from the wear of pains, which to the patient seem to do no good, a little chloroform is a great boon. During the second stage we should expect to relieve the patient from the greater part of her suffering, carrying the anæsthesia to complete insensibility if necessary. Of course the great majority of patients *can* endure the pain, if they have to. But unless there are physical objections, or objections on the part of the patient, we should expect and consider it our duty to give chloroform simply to save suffering. No one questions the propriety of an anæsthetic when an obstetric operation is necessary.

In a great majority of cases labor will be shortened if chloroform is used. The patient will be calmed and her courage increased; useless voluntary muscular action, and spasm, will be arrested and the uterus contract more regularly and with greater effectiveness.

But the greatest benefit is to be derived when the child enters the outlet and begins to distend the perineum. Then, in most cases, anæsthesia should be carried to the full surgical degree. The patient being unconscious, we may give her all necessary attention without undue haste, caused by our anxiety to save her from her horrible agony.

The patient being perfectly passive, the head descends and retreats regularly until the perineum is sufficiently stretched, the child is born and the mother probably uninjured.

To recapitulate:

1. An anæsthetic should be given to save suffering and an unnecessary expenditure of nervous force.

2. To shorten labor.

3. To enable the patient to pass through the completion of the second stage with less or no injury to the perineum, thereby saving an operation for repair, and a rent through which contagion from without may enter.

Anæsthetics will thus give us less necessity for the after use of antiseptics.

Dr. J. C. HOAG read a paper entitled,

MODERN VIEWS OF THEORETICAL AND PRACTICAL OBSTETRICS.

Assuming then that child-bed fever, so-called, is an infection differing so far as we know in no essential particular from surgical infection, and assuming further that we have to deal, not with an auto- but with an hetero-infection, what are we able to assert of the present state of our knowledge concerning the origin of this disease?

Puerperal fever, so-called, is to be regarded as a generic term practically the equivalent of surgical fever. Further than this we can only say that it is non-specific in character and may be produced by the streptococci as well as the staphylococci. Regarding the presence of micro-organisms in the genital canal of healthy women the following general deductions have been made by Dr. G. Winter from the experiments of the various investigators: 1. Bacteria of all sorts are found to some extent in the Fallopian tubes of the cadaver, while in those which have recently been removed from the living subject the bacteria are extremely few. 2. Bacteria of many sorts have been found in the uterus. 3. In the cervix and vagina great numbers of organisms of various forms are found, but none of these are pathogenic.

Winter's own experiments do not wholly confirm the above findings. Having examined quite a large number of tubes and uteri freshly removed from living subjects, he found that the normal tubes and healthy uterine cavity contain no micro-organisms, while in the vicinity of the os internum he found them in one-half of the specimens

examined. The result of his examinations of the cervical secretions was, that in every healthy woman, numerous micro-organisms of three or four varieties, including both bacilli and cocci, are found. The micro-organisms become much more numerous during pregnancy, especially the bacilli. The vagina always contains micro-organisms in great abundance. He also gives in a table a comparison of the twenty-seven forms of bacteria, which he has found in the genital canal. Inoculation experiments with the three forms of staphylococci and streptococci which he identified, gave negative results. In his opinion the practical results of experimentation point to the necessity of the strictest measures of vaginal disinfection, because he believes that the germs present, though of weakened virulence, are able to reacquire their potentiality under certain indeterminate conditions and thus give rise to self-infection, so-called.

There is small room for doubt that the chief danger of infection, incurred by the puerperal patient, lies in the direct conveyance of noxious germs to the wounded surfaces of the genital tract, which are always present even after the easiest labor. It becomes then a matter of the utmost importance to take heed that whenever it is necessary to introduce the finger or an instrument into the patient's vagina, the same be most scrupulously disinfected. As we have no ready means of testing the perfection of our efforts at disinfection, and as we know that our hands are particularly difficult to disinfect, it is evidently most highly advantageous to our patients to spare them all unnecessary manipulation.

It is my purpose now to offer what I believe to be the essential desiderata of a well managed case of normal labor.

The prophylaxis of childbed fever should begin during gestation. The patient should live as far as possible in the midst of good hygienic surroundings and should bathe frequently, especially toward the end of

gestation. The lying-in chamber should be well ventilated. The bed should be clean and a plentiful supply of sheets and towels should be provided. The external genitalia should be washed with an antiseptic solution after labor has set in, and care should be taken that the bladder and rectum be emptied. The physician should make as much as possible of the external methods of examination to the partial or complete exclusion of internal manipulations. The physician should always be provided with disinfectants and a nail-brush sublimate by preference, for the disinfection of his hands and arms, and carbolic acid for such instruments as may be needed. Above all other considerations I place the adequate disinfection of the physician's hands, and I am convinced that there are physicians whose hands have never been properly disinfected because their possessors are ignorant of what constitutes adequate disinfection.

Aside from all considerations of the patient's ultimate welfare, the genital tract should as far as possible, be protected from unnecessary lacerations, abrasion and contusions, as tending, of course, to securing a relative immunity from infection, and I am firmly of the opinion that these desiderata are highly promoted: First, by endeavoring to maintain the integrity of the membranes as so ably advocated by Dr. Henry Byford; and second, by causing the patient to maintain the lateral decubitus during labor, at least if she be a primipara. Perineal laceration may sometimes be avoided by a skillful employment of the method which enables one to promote the expulsion of the head, and is practiced by introducing the index and middle fingers through the patulous anus until the chin or mouth of the child is reached, and then exerting pressure in the direction of the symphysis. Furthermore, the head should be held back until the perineum has been suitably distended. It should be controlled, in fact, until the occiput has advanced

quite under the symphysis, at which time it is in position to escape from the soft parts with its smallest diameter. The head should not be born during a pain, but in the intervals of the pains, and when the supra-orbital eminences are visible the perineum should be rapidly swept back over the face of the child by the physician's right hand, the left meanwhile being occupied in drawing the head back over the symphysis.

It is better not to tie the cord until after it ceases to pulsate, when it should be secured in two places, and cut between them, not only because of the possibility of a plural pregnancy, but because a placenta full of blood is in a more favorable condition for expulsion than a collapsed one.

One should not be over-anxious or impatient with regard to the third stage of labor, but should be content to wait until the uterine contractions have had time to loosen the placental attachments when the muscular action of the uterus may be aided by Créde's method of expression, or even by concomitant, though gentle traction on the cord after separation has taken place. The placenta having been expelled, it should be rotated a number of times so as to twist the membranes into a cord, with a view to effecting their complete removal.

To secure the complete extrusion of the secundines is a most important consideration, comparable even in its bearing upon the remote consequences to the woman, with that of managing the delivery of the child, without unnecessary laceration of the soft parts, for I believe that endometritis may often be directly traced to their imperfect expulsion at the time of labor. It has often occurred to me that the placenta comes away more readily and more perfectly in the case of primipara, though I am not sure that this is a general observation. To my mind, however, a placenta with a smooth, maternal surface, and without an excessive development of connective tissue, augurs well for the patient's subse-

quent health, to say nothing of its promise of a normal lying-in period, and accordingly when I am not satisfied that the secundines have been completely discharged, I endeavor to remove the fragments, often with the curette first, because a simple instrument can be more efficiently disinfected than the fingers, and secondly, because I can more thoroughly accomplish my purpose with its aid, especially in cases of abortion, where the placenta is apt to be especially adherent.*

If relatively extensive lacerations of the cervix or perineum have occurred they should be closed at once by a suitable operation, which, if carefully performed, yields excellent results. I have secured the complete union of a moderately lacerated perineum without even douching the vagina subsequent to the insertion of the sutures.

If the patient has entered upon a normal puerperium, after a satisfactory termination of labor, if no reasonable pains have been spared to shield her from the dangers of infection, and if the uterus has been completely emptied of its contents, there remains little to be done save to keep the patient clean by allowing the discharges to be absorbed by clean dressings (which should be frequently changed) and by washing the external genitals with antiseptic solutions. Uterine, and vaginal douches alike, may be safely dispensed with, unless distinct indications should arise for their use. The patient should be allowed to rise from her usual position in bed to evacuate the bladder and bowels, in order to favor the expulsion of blood clots, etc. It should be our aim to manage a case of labor with the idea that it is a physiological, and not a pathological, phenomenon.

If, however, in spite of all well-directed efforts to promote a normal puerperium by shielding the patient from the dangers of infection, the patient gives evidence of

the dreaded symptoms which are so well known, there is no time to be lost. Watchful expectancy no longer avails. Activity is imperatively demanded. Prompt curetting of the endometrium has yielded excellent results in the experience of many physicians, and, having tried it myself, I have been extremely well pleased with the results. Its applicability, too, is by no means limited to cases where large masses of placental tissue have been retained, but, on the contrary, the most satisfactory results have often been obtained in cases where the third stage of labor was quite normal. Before and after using the curette the vagina and uterine cavity should be thoroughly irrigated with a suitable solution.

A single application of this method is often productive of the most satisfactory results. I have seen numerous cases where the temperature, previously very high, fell to the normal point in a few hours after this treatment, without subsequently rising. It is not necessary to suppose that in all these cases true sepsis is prevented, for the symptoms are often referable to putrid intoxication, and it is no doubt these very cases which are most markedly and most permanently benefited by curetting. I prefer the Sims' curette for most cases, believing that with many of the other forms it is impossible to reach all parts of the endometrium.

It is a matter of common observation that uterine douching once begun requires to be often repeated. The insertion of the uterine nozzle, however, is by no means always an easy procedure, and it is often attended with considerable pain to the patient. On the other hand curetting is a simple procedure, one which requires very little in the way of preparation, while it often accomplishes more than any number of uterine irrigations, and does not need to be repeated if properly performed. I have curetted the uterus after abortion without other assistance than that offered by the patient herself.

*Hoag. Some Considerations Regarding Death of the Fœtus in Utero. Trans. Chicago Gyn. Society, March, 1888.

Ergot is theoretically, and I believe practically as well, an important agent in the prevention of septic and toxæmic absorption. Quinine has long been held in high repute in these cases, but its efficacy has been positively denied by writers of eminence.

It is often necessary to direct treatment to the reduction of temperature. This may be well accomplished by the cold water treatment, or by the application of ice to the abdomen, in which situation its action is also favorable to the limitation of absorption, and to the prevention of tympanites. Antipyrin may be employed with good effect, its depressing action being guarded against by the free use of stimulants. There are possible sources of danger in the use of antipyrin from the fact that its chemical reactions are very imperfectly known. Mr. William Dyche, a skillful chemist of this city, informs me that he has observed the formation of an aniline green from its reaction with spirits of nitrous ether. He also observed a similar reaction in a mixture containing bromide of ammonium and bromide of potassium, though this occurred only when the ingredients were dissolved separately.

I have not had much experience in the treatment of peritoneal inflammation by the free administration of salines, but am inclined to regard it as a useful innovation on the old routine of "locking up the bowels" with opium.

There is a subject upon which I believe too little interest has been awakened in the discussions of the obstetricians, and that is the morbidity of patients. Almost every physician can glance over his records and produce a long list of obstetrical patients which did not die, and a very short list of the ones that did. But it is much more important to consider what proportion of the patients passed through a normal puerperium. Most of our information on this subject comes to us from gynæcological sources. I have no statistics to present,

and can only say that I have often been astonished at the frequency with which one can find pelvic exudates, and their remains if he look for them. I have often examined 20 or 30 gynæcological cases in a day, nearly half of which gave evidence of this form of disease in greater or less degree. If, as some have claimed, the lying-in patient's attendants are to be held responsible for most cases of septic infection in its worst form, upon whom is the onus to fall in this other, and vastly larger, class of cases! This may not be an easy question to answer, but at all events a boast that that one has practiced obstetrics for a term of years without losing a patient from puerperal fever, does not amount to very much when one considers the origin of pelvic exudates.

In this connection I have often thought of the rôle played by the midwives who control such a large proportion of obstetrical practice. There are midwives in this city who boast of having attended 7, 8, and even 9,000 cases of labor. Some of them are doubtless admirably qualified for their occupation, but we have all, no doubt, seen midwives, who enjoy a large practice, and yet are wholly without the necessary qualifications for attending the simplest case of normal labor without exposing the patient to very grave dangers.

I have no wish whatever to pass criticism upon our civic authorities, but I have found food for meditation in the information that a knowledge of the uses of antiseptic agents forms no part of the requirements exacted of the midwives in this state. I do not know whether the relations are different in other parts of our country, but it has occurred to me that it would be both eminently useful, and entirely practicable, to furnish each midwife with printed instructions regarding the ordinary measures of hygiene to be observed in the lying-in room. Certainly the "effete monarchies of the east" protect their women with far more zeal than has ever been displayed in the

United States of America. In Germany and Austria, for example, not only are the midwives carefully qualified for their occupation, and closely watched in their conduct, but their duties are minutely explained in a book of instructions, and the greatest possible stress is laid upon the proper use of antiseptic agents, as well as upon more general points of hygiene. Judging from expressions which one often hears on the part of medical practitioners, I am by no means sure that a perusal of such literature would not be productive of great good to a certain class of physicians as well.

DR. J. S. KNOX: I was very much interested and very much pleased with both papers. I fully endorse the first one; I am an absolute believer in anæsthetics in labor. I believe many a patient suffers from a long, tedious lying-in simply from a painful labor, and I believe in the proper use of anæsthetics to control the pain; it gives the woman confidence and is an advantage both to her and her child. It has been a rule of mine to administer the anæsthetic as the child begins to extend the vulva and fully distend the perineum; always when I fear the rupture of the perineum. For an anæsthetic I never use anything but chloroform. I am satisfied of the ill effects of ether upon the kidneys, and as most lying-in women have a tendency to nephritic congestion, I think ether should never be used in labor, unless the woman is so depressed that chloroform is contra-indicated.

In the second paper I would find one fault, that is in regard to its advocacy of the curette. I am positively opposed to the growing use of the curette at term. A gentleman who has recently returned from Europe told me he had seen several autopsies on women who had been curetted after labor and in two instances he found the uterus perforated. I recently read, with great surprise, a paper by an obstetrician of this city in which she stated that she had perforated the uterine wall in one case,

the lady leaving her office and going home, without ill result, and therefore she thought the curette was not dangerous, even if it did perforate the uterine wall. I do not see how it is possible to curette with success the uterine cavity at term, without risk of perforation; if you remember that the uterine wall is only three-eighths of an inch thick after parturition, you can see that the curette would easily go through it. Then again my objection to the curette is, that I do not believe it accomplishes good if the uterus is fairly septic. I endorse most heartily the doctor's remark in regard to intra-uterine and vaginal douching. In normal labor I see no necessity for them. If the physician is thoroughly clean, disinfects his hands and manages the labor properly, the woman ought to go through without fever or sepsis, or douching. I agree with the doctor, that, where the indication arises for the intra-uterine douche, it should be used immediately, but I question as to what is the indication. How can one tell positively that the sepsis arises in the uterus? I confined a patient ten or twelve days ago who had suffered from neuralgia for several days, and was exhausted from loss of sleep and pain. Her labor was painful and instrumental, and after labor, within twenty-four hours she had pale features, a temperature of 105° and a good deal of abdominal tenderness. One would say these were indications for the intra-uterine douche—chills, extremely high temperature, sweats, pinched features, and tender abdomen; yet I was so positive that I had managed her case aseptically, and that her condition was due to nervous shock, that she was simply given stimulants and opium and kept warm, and in thirty-six hours she was comfortable. I am sure that if I had gone to work and douched her I would probably have inoculated her. If I had a positive indication that the uterus was septic I should certainly use the douche, but until positive I think there is more danger in the use of the

intra-uterine douche than in its non-use. Our President saw with me a case of inversion of the uterus due to a large fibroid of the fundus. I was first called in consultation to see the case. The inversion occurred with excessive hæmorrhage. I succeeded in restoring the inversion and checking the hæmorrhage but could not get back what was apparently a portion of the fundus. When Dr. Etheridge saw the case the capsule of the fibroid had ruptured and it was undergoing decomposition, and during the next week the uterine cavity was constantly putrid. Intra-uterine and vaginal douches were used and she made an excellent recovery. The doctor who managed the case told me that during confinement he had thoroughly disinfected his hands with corrosive sublimate, and during all subsequent examinations the hands were made thoroughly aseptic. The intra-uterine douche, when it was used, could not destroy the putridity of that cavity while the fibroid slowly sloughed away and was discharged. If such conditions can exist in the uterus and the woman make a recovery, I fail to see the need of the intra-uterine douche for the ordinary febrile disturbances, so common during the lying-in period.

DR. FRANK CARY: I was very much interested in the first paper, but I can hardly agree with the author as to the use of anæsthetics so early in labor as I understood from the paper he recommends using them. As regards the majority of practitioners not using anæsthetics in labor, I think that it is true, but I think some of the younger men of to-day give chloroform to an extreme. I recently saw a patient to whom I found a young gentleman in attendance, giving chloroform nearly to surgical anæsthesia, in the first stage. As the case was mine he turned it over to me; I stopped the anæsthetic and it was nearly fifteen hours before the patient was delivered. As to using chloroform in the second stage when the head is passing over the perineum, I freely endorse that mode of treatment. As to

saving more, or as many patients without antiseptics, I most surely do not believe it, for I think that antiseptics in the practice of obstetrics is fully as important as in surgery or gynæcology. Most of these patients after confinement are in a condition to absorb septic matter by reason of solution of continuity in different portions of the tract, as well as the denuded portion in the uterus after the removal of the placenta. As to the use of the curette, I agree in a great measure with Dr. Hoag. I should criticise Dr. Knox's remarks on the use of the curette, after the manner of Dr. Fenger while uniting a radius. Being told that it had been united by several other physicians, he replied "it makes a great deal of difference who does it." A physician may scrape a hole through the uterus with a curette; I know a gynæcologist in this city who has done it several times; but I do not think it is necessary. If the placenta has not thoroughly come away and sepsis has developed, I see no reason why we should leave that decomposing mass. But if we have removed it and got down to living tissue, then we can rationally use an antiseptic in the uterus. I do not believe in ever douching a patient unless it is called for, and by saying that it is "called for" I mean when the temperature goes up to 104 or 105, with offensive lochia and reason for supposing that we have decomposition going on in the uterus; I should most surely then use an intra-uterine douche. Dr. Knox said that in a patient he had the other day the temperature went to 105, there was delivery and collapse, but that he did not use an intra-uterine douche; I should most surely have done so. Moreover he said that if he had done so he would have inoculated the patient; I see no reason why he should have, if he had taken the proper precautions. Within the past year I had a physician come into my office and tell me he had just come from giving an intra-uterine douche, and three minutes after he told me he had been to see a patient with

erysipelas. He told me afterward that he came near losing his patient. I believe that patients are frequently made septic by the nurse. Within the past year, in hospital practice, I had a case where the temperature ran up to 105. The most careful antiseptic precautions had been taken, and I said it was my fault or that of the nurse—I found that the nurse had been taking care of a septic case at the same time. I required that the vulva should be covered with an antiseptic dressing and the nurse had been changing that gauze after attending the other case which was septic. This patient had a temperature of 105, with pelvic exudate, which, however, subsided without suppuration.

DR. WILLIAM E. CLARKE: I have used both ether and chloroform in labor, and I am sure from my observation that their use does retard labor to such an extent as at times to endanger the life of the mother and child. I am very sure of this, and yet the pressure is so great, the desire of saving pain occasionally compels me to use them. If, however, the patient will consent to wait till I advise an anæsthetic, there will be many that do without it. I have known cases where labor seemed to be suspended by the use of an anæsthetic, but upon its withdrawal, the pains came on, successfully terminating the labor. I was called a short time ago, in a case of prolapsus of the cord, where the patient was under an anæsthetic. When I arrived the pains had ceased, and I believe the chloroform had arrested the labor.

I agree most heartily as to the importance of antiseptics. Some things have been said in the discussion that I cannot quite understand. Why should a practitioner be so particular in the personal use of antiseptics and yet think that he could leave his patient with the uterus loaded with septic, decomposing matter, and expect a perfect recovery? In the case mentioned, it must have been disposed of, in some way, and I believe if it had been re-

moved by the curette and douche it would have very much increased the chances of life. I use the douche when it is called for. A man would be silly and criminal to use it, or any other powerful instrument, when not called for. I use it whenever I think there is septic matter within the uterus. The results, as far as my observation goes, have been successful. I should use the curette when I thought it necessary. In fact I used it before I saw one made by an instrument maker. I made use of a double canula with a watch-spring passed through it, making a loop. Of course in using such an instrument, now, with our knowledge of sepsis, we should be very careful that the tubes of the canula were perfectly aseptic. With the movable loop you can not only scrape out the uterus, but engage and remove fragments of membrane or other matter that may remain.

DR. L. T. POTTER: Concerning the use of chloroform to the so-called surgical degree, in the second stage of labor, it strikes me that it is not advisable. The objections raised, and perhaps sustained, by the majority of the physicians to-night, that it retards the labor, is not the only objection. The objection to the use of chloroform is the great danger of post-partum hæmorrhage. Under the relaxed conditions of the muscles of the mother it is not essential in order to mitigate pain to give it to the surgical degree.

In criticising the second paper, Dr. Knox has said that he is unalterably opposed to the curette, but in favor of the douche. I am unalterably opposed to the douche, but in favor of the curette. In the use of the douche there is great danger, if there is a septic condition of the uterus, of driving, by a *vis a fronte*, that sepsis up the Fallopian tubes and giving rise to abscesses and other grave consequences. There is a proper and an improper use of every instrument, but if the curette is used properly, and with great care, it is of marked service in abortions, where, perhaps, the uterine

walls are not quite as thin as immediately after labor at full term.

Concerning the use of antipyrin in reducing the temperature, I have experienced some grave symptoms in its use; whether it has been due to an impurely manufactured article, it is impossible for me to say. But I recognize that antipyrin is the product of coal tar, and, like carbolic acid, capable of producing a deleterious effect upon the kidney. I have already, in two cases, from the use of five grains of antipyrin every two hours, produced the same condition inside of eighteen hours: blood in the urine, and actual suppression of the urine, which, upon the withdrawal of the antipyrin, has been relieved and the normal condition of the kidney resumed. Concerning the other statements in Dr. Hoag's valuable and scientific paper, I most heartily endorse all he has said.

DR. JAMES G. KIERNAN: It is well known that there are many conditions of mental excitement following labor. In the greater part of those cases the exciting etiological element has been, no doubt, the pain and anxiety attending labor, and very probably to the previous condition of the patient.

It has been my fortune—and my experience has been that of a number of others—to have seen a form both of melancholia and mania which was not a puerperal insanity, following labor, and which was prevented by the use of anæsthetics in subsequent labors. It seems to me that under such conditions the use of anæsthetics would be justified.

With regard to ether, I have seen three cases in which there was no doubt that the insanity was directly precipitated by the use of ether.

Dr. Hoag correctly remarks that antipyrin in combination with spirits of nitrous ether, has produced a peculiar greenish product, but more recent experiments have shown that this decomposition of the antipyrin was due, not to the nitrous ether, nor to the potassium bromide, nor to ammonia,

but to the fact that both contain acid. When nitrous ether, made according to the United States Pharmacopeia, is used there is no precipitate. It should be remembered, too, in regard to bromide of potassium and ammonia, that both contain sulphurous acid. At the same time it is true that with the increased demand for antipyrin the color manufacturers who originally introduced the article, are making it with great rapidity, which produces a great tendency to decomposition, and the experience that it has produced poisoning, similar to carbolic acid, is not unique. But it should be remembered that there is no antipyretic but must, at some time, under some circumstances, produce untoward effects. These are likely to be either cardiac depression, or a peculiar skin eruption. In point of fact these peculiar conditions have followed the use of every one of the new antipyretics. They have been observed with quinine and thallin, and are very likely to follow the use of every other antipyretic.

DR. C. W. EARLE: It seems that one of the questions is in regard to the time we should commence to give an anæsthetic in a case of labor, and I quite agree with Dr. Cary that it is almost bad practice to commence too early. To commence during the first stage and fill the patient full of chloroform, when it is impossible for him to know whether the labor is to be terminated in one hour or twenty-four, is all wrong. He not only places the woman in a possibly dangerous condition during this stage of labor, but is giving an agent which, to my judgment, predisposes to post-partum hæmorrhage. I am not sure but that if the child is immature and puny, its life also is endangered. My practice usually is to commence the anæsthetic in the latter part of the second stage, when the head presses well against the perineum.

There is one question in regard to the use of opium during the post-partum period I wish to raise, although it is foreign to either of the papers. Do we endanger the

life of the baby by giving an opiate to relieve the after-pains of the mother? I will tell you why I ask the question. I delivered a child on the South Side, in a family where the arrival of a girl baby was hailed with the greatest possible delight. On my second visit the nurse, who is one of the most intelligent and well trained nurses that I have on my list, told me the after-pains of the mother were rather severe, for which I did what I have done a hundred times before, prescribed deodorized tincture of opium in fifteen to twenty drops every two to six hours, according to pain. I believe this is a perfectly safe dose. That evening fifteen drops were administered, but the lady continued to have pains, and in two hours twenty drops more were given. The next morning the baby was discovered to be in a collapse, and in the afternoon died. I did not see the child, as I was attending another case, but I understand that it was cyanotic and convulsed, and the general impression made by the attending physician, with which I believe the nurse coincided, was that the opium taken by the mother caused the death of the baby. I would like to know the experience of other members of the society in regard to the administration of opium for after-pains. I took pains to look up the literature of the subject and found that it is the practice of every one, so far as I know, and yet I have learned of one other case, in the practice of a physician, where the child died of convulsions, and the only cause that could be assigned was a few drops of some of the anodyne preparations of opium given to the mother for after-pains. If anodynes given to quiet after-pains even in a minority of cases are dangerous to the babies it is time that the medical profession was aware of the fact.

In regard to antiseptic obstetrics, it is well-known to every member of this society that I believe antiseptic obstetrics can and is saving a larger number of lives than can be saved in both the departments of medi-

cine and surgery. The mortality for a great number of years in hospitals has been fifteen per cent. or one hundred and fifty in every thousand. This has been so reduced that in the Vienna Hospital, where they confine ten thousand women annually, they lose only .58 of one per cent. What the mortality has been and now is in private practice is not, and it appears to me, can never be known. Dr. Hoag tells us that if some of the membranes or a very small piece of the placenta was left in the uterus he would either curette or give an intra-uterine douche, or remove it with his fingers. Why is this necessary? If the patient is absolutely aseptic, the nurse aseptic and the doctor aseptic, and all the surroundings aseptic why not let the debris alone to come away itself perfectly sweet and clean? I delivered a case recently where part of the membranes were left and I did nothing: I believed the woman would do better to be kept perfectly clean and let alone. I ordered an antiseptic pad to the vulva, occasional douches, and boracic acid or iodoform to the diseased tissues at the outlet, and in five days everything came away perfectly clean. Now I believe this woman was much better off than she would have been had I introduced my finger through the os and detached the membranes, or had given her a douche, or had curetted her. I am in favor of douches when they are required and in some cases always, particularly after operations have been performed.

Where a single stitch is put in the perineum the woman, in my judgment, will be safer if we give douches. It has seemed to me that where I restored the perineum and douches have been withheld, that the woman has not done as well as when they are given and repeated every twenty-four hours, for four or five days until every possible chance of damming up of the lochial discharge has passed away.

I believe in curetting, but I think the person doing it should know exactly what he is about, and I do not believe every

person should be provided with a curette and proceed to do the operation at the first rise of temperature, unless there are special and definite indications. Sometimes a rise in temperature takes place when it is not necessary to curette. If it is done, however, it should always be performed with proper instruments, in a scientific manner and with all antiseptic precautions. Curetting after abortion or after labor at full term is altogether a different procedure. After abortion some most remarkable results occur. The recovery in most cases is particularly rapid. In some of these cases where the secundines and pieces of placenta remain, the temperature high and the woman going through the different stages of sepsis, a single curetting properly done (always giving an intra-uterine douche before and after), and covering the lacerated and bruised parts with either boracic acid or iodoform, will remove the patient from a dangerous condition to one of safe convalescence. After labor at full term there are large sinuses which are gradually closed by the thrombi. These thrombi are gradually organized and by the shrinking of the sinuses are obliterated. Now it has appeared to me that curetting of such a uterus may open some of these sinuses, may cause some of these thrombi to enter the circulation, producing alarming symptoms. This, then, is why I think curetting the uterus after full term should be carefully considered before it is performed.

DR. A. E. HOADLEY: I am a great friend to the anæsthetic in labor. I never refuse to give it when there is an indication for it. I am always perfectly willing to give it in the second stage, and my choice is ether. I make a cone suitable for the purpose, and pour in a little ether, and hand it to the patient, and instruct my assistant to put in a little as long as the patient can hold the cone. She is perfectly satisfied; she is conscious of every pain; it does not seem to retard labor. I have never had any ill effects

from ether, and they can always take ether if they want an anæsthetic. After they have had a little ether and are getting along toward the close of the second stage, if I think there is any indication for full anæsthesia, four or five rapid inhalations of fresh ether will put the patient into a surgical condition of anæsthesia, or sufficient for practical purposes. I do not give chloroform often, not one case in ten where I do ether. I am satisfied with ether. Chloroform I have to administer myself, and watch it all the time. I have given ether almost continually for six days to an obstetric patient, without any ill effects. But then I do not approve of giving it early, and only give it when it is needed.

In regard to antiseptic obstetrics, I can only add my testimony in favor of the most thorough antiseptic precautions in obstetric practice, and when there is an indication of decomposing secundines in the uterus, I do not hesitate to remove them with the douche and curette. I almost always make use of cotton swabs with the douche. As I am douching the uterus I can wipe the entire surface of the uterus with the cotton. I am not afraid of wiping a hole through it, and I am not afraid of scratching a hole through it with the curette. It is only necessary to loosen these decomposed plates of membrane and wash them out. The physician who puts a sharp curette into a uterus after full term I think does an unjustifiable operation. A blunt curette, and that handled lightly, would, in my experience, be quite sufficient to remove the secundines, and I have good results follow such operations.

I will confess to a practice which, perhaps, is my own, that is in regard to removing the placenta. I commenced early in my practice to remove the placenta immediately after delivery, and have continued doing so up to the present time. I always intend to remove the placenta immediately after separating the cord. I do not wait for a pain. I never had any diffi-

culty in removing the placenta. It comes away promptly, and without trouble to the patient. I am perfectly satisfied with the procedure, and shall probably continue to use it, with all due antiseptic precautions, of course, at the time. I remove it by gentle traction on the cord, and by hooking down one side of the placenta with the finger. In those cases in which it has been necessary to remove the placenta fifteen minutes or half an hour after the termination of labor, I have had difficulty, but immediately on separating the cord I can remove the placenta without difficulty; it comes away very easily.

DR. L. A. HARCOURT: I have attended about two thousand cases of obstetrics, and I know that I have not used either chloroform or ether more than fifty times. I know, too, that the cases in which it was not used made as good a recovery as those in which it was used. I am in favor of using it when there is an indication for it, but I recognize the fact that labor is a physiological process, and under ordinary circumstances no anæsthetic is required. I use it under two or three conditions: *First*, if the os uteri is rigid, and the pains excruciating, then I think an anæsthetic is useful. *Second*, if the perineum is rigid toward the close of the second stage in labor, an anæsthetic will help to prevent its laceration. *Third*, in puerperal convulsions, I certainly should use it.

I think the curette should not be used for the purpose of removing the entire placenta, but it is justifiable to use it to remove the debris. One of the speakers this evening said that septic fever is always the result of ignorance, or negligence, on the part of the practitioner. It seems to me that statement is a little too sweeping, and that there are other sources from which septic poison may arise. Many of the poorer classes call in their mothers, or sisters, or aunts, or neighbors, during the lying-in period, and these people hesitate, and almost refuse, to put anything clean

about the patient. I invariably instruct them that nothing must be put near the woman that has not been thoroughly boiled, and is not absolutely clean, and I explain to them that there is no use in my trying to use antiseptic precautions if they do not, or the nurse does not. The two or three cases of puerperal fever I have had in 20 years I am satisfied I could trace directly to the attendant.

In regard to the administration of opium for after-pains, I have used it until within the last six years wherever it was required, and very seldom has it been required since I began practicing Créde's method of removing the placenta. My patients hardly ever have an after-pain, and I believe if that method is successfully practiced, after-pains will grow beautifully less, and there will seldom be occasion for the administration of an anodyne to relieve them. It seems to me that in the case in question, there might have been some other cause than the administration of the deodorized tincture of opium. I have been in the habit of giving grain $\frac{1}{2}$ of morphia with what would be the equivalent of about gr. 7 of bromide of potassium every three or four hours, as required, and have never found any unpleasant symptoms result from the practice. In some cases I have given a good deal more, and frequently where there was a great deal of pain, or metritis, I have used a hypodermic injection of grain $\frac{1}{3}$ of morphia, without bad results to mother or child. In most cases the secretion of milk is rather scanty until about the third day, and in case the child dies on the third day, it could hardly have been poisoned by opium.

DR. H. M. SCUDDER: If a patient takes chloroform well I feel perfectly safe in giving it early; as soon as the os has begun to dilate freely; and my experience has been that if carefully administered it will not interfere materially with the progress of the labor. If we begin to give chloroform early in the first stage, as we some-

times have to do with nervous patients, and those threatened with puerperal convulsions, we must be ready to use "Barne's bags," and to apply forceps, as the chloroform may seriously delay the labor.

I am strongly in favor of giving it in the second stage of labor. There has not been much said in reference to the way that it is given. I suppose it is usually given on a handkerchief. That is the way I used to give it, but I think the use of an inhaler is much more satisfactory.

By the use of the "inhaler" during the course of each pain, but not in the intervals, I think I am able to give my patients more relief from pain than I can by administering the chloroform in the ordinary way on a handkerchief, or by the use of a cone. I feel confident that the inhaler enables me to control the pain with less chloroform than I had to use when I gave it on a handkerchief. Although I have given chloroform in a large number of labors, I never had a case of serious puerperal hæmorrhage which I thought was attributable to the chloroform.

In reference to the curette, I agree more with Dr. Knox than with those who are very liberal in the use of it. I think the distinction Dr. Earle drew is a good one. There is not much danger in the careful use of the curette in cases of abortion. You can use the curette freely in abortion where you could not use it to the same extent in a puerperal uterus after labor at term. I prefer, before using the curette, to be perfectly sure that the uterus is septic. I prefer, generally, to use the douche first, and if this does not have the desired effect, to use the curette.

Dr. J. FRANK: I cannot agree with the author of the first paper, that giving chloroform hastens confinements. My experience is that it retards it. I can safely say chloroform given to the surgical stage or near it decidedly retards labor.

I would recommend chloroform to be given with a great deal of caution to the

stage of tolerance. If it is intended that the narcotic be given to the surgical stage, I would advise the accoucheur to keep his finger in the vagina on the uterus, or the hand on the abdomen, if the head is engaged under the pubis, as the safest and quickest means of knowing how the uterus is acting.

It might be said that there is danger of sepsis if the finger is kept in the vagina; if everything about the patient and the attendant, and everything used is antiseptically cared for, there is no more danger of infection from keeping the finger in the vagina, than there would be from any major surgical operation.

I am very glad that exceptions have already been taken by a previous speaker to a statement made by a critic on the second paper of the evening, that if puerperal fever is developed after a normal physiological labor, it is the fault of the physician attending. This is very strong language, and places every physician who undertakes a case of labor, in a delicate position, not only with his patient and her friends, but with the law. This question has caused hot debate in medical circles all over the world, and the conclusions therefrom have been: "It is not the physician's fault, unless he knowingly carries it to his patient." Noeggerath (some years ago) has shown that a great many cases of puerperal fever developing after confinement was due to a latent gonorrhœa in the woman, and I am fully satisfied in my own mind that there are many such cases. I have seen myself, two cases where puerperal fever was caused by a latent gonorrhœa in the woman, transmitted to her by her husband; the wife of course did not know anything about it. I had previously treated both of them for gonorrhœa. Both women recovered after weeks of illness.

As far as antiseptics is concerned, I am a thorough believer in it, not so much in the different chemicals used as to thorough cleanliness, no matter what is employed.

DR. H. P. NEWMAN: It would seem, in the discussion here to-night, that the objections were largely to the indiscriminate or improper use of anæsthetics, the curette and intra-uterine douche. It goes without saying that either of these three measures are harmful when injudiciously used, and certainly when used without discretion or proper indication, but they have their place in obstetric procedures. It has been said, too, that child-birth is a physiological condition. True! but our women, many of them, are in anything but a physiological condition at the time of child-birth. Particularly is this the case in cities, among women who live more or less artificially, and it is in this class of cases that we are called to use anæsthetics in a manner which would not perhaps be indicated in more robust, healthy women from the rural districts. I refer to the condition of nervous irritability which frequently occurs even in the beginning of labor. It has probably been the experience of every one here practicing obstetrics, that in certain women of a high nervous organization, the onset of the pains causes an overpowering dread and nervous excitement, which, acting through the sympathetic system, directly upon the uterine nerves of cerebro-spinal origin, disturbs their rhythmical action, preventing dilatation of the cervix, which contracts down upon the presenting part and arrests the progress of labor. Here I think is an indication for partial anæsthesia, that is if we use chloroform simply to allay this nervous irritability, and to quiet the anxiety of the mother: the inhibitory action of the nervous system will thus be overcome, and labor will progress, usually, without further interference. The same may be accomplished, possibly, by the use of other sedatives, perhaps an opiate as is popular with many physicians. But chloroform is indicated here and has done me good service.

The authorities, I believe, are generally united on the use of anæsthetics in the

second stage, particularly in the latter part of this stage, and certainly profound anæsthesia should not be pushed before that time.

We ought to judge of our obstetrical cases not simply from our mortality list, but from the condition in which the woman is found subsequent to delivery. There is a vast amount of mischief done which of course does not result fatally, and which is not tabulated or reported. We flatter ourselves that if the difficult, or complicated case goes through without the loss of life it counts so much in favor of the judicious use of instruments, anæsthetics, the curette, douche, etc. I think this is a mistake. Those who practice gynæcology will find a vast number of these cases presenting themselves at the end of a few weeks or possibly months, with indurations and exudations about the pelvic organs, and with other evidences of mischief that occurred during the birth of the child and subsequently. These things ought to be considered in the judicious management of an obstetrical case, and not simply the mortality rate. I am in favor of the curette and intra-uterine douche when indicated and properly used, but their indiscriminate and injudicious use is to be deplored.

DR. E. B. WESTON: I think it is evident from the discussion this evening that anæsthetics are not used very freely and that the teachings of this society will not lead to their abuse, as the author of the paper on "Modern Views of Obstetrics" does not even mention them. It is also evident from the interpretation my paper has received that the members think I am very partial to them, which is a fact; but as I stated in the paper, in the first stage of labor chloral and opium have their place. That is not usually the place for chloroform, but in some rare cases where the patient is very nervous, almost convulsed, as you occasionally see them, then a few whiffs of chloroform will quiet them and the chloroform can be removed and the patient pass on for

hours without its further use. I stated that even in the second stage anæsthesia was not to be pushed to the surgical degree until the last, except in rare cases. I stated that expressly; but I do believe that for a time immediately before the birth of the child the patient may be kept unconscious with perfect safety, and the pains go on with regularity, and the labor not be delayed. I believe the use of an anæsthetic in the final stage does save a great many patients, and does make the after use of carbolic acid or the bichloride of less importance; that is, if you can save an extensive laceration, as you certainly can in a great many cases, you prevent the occurrence of an opening which will give ingress to septic material, and in that way you avoid puerperal conditions for which you afterward have to use anti-septics so freely. I would in some cases use the first stage of labor, and afterwards freely up to complete anæsthesia, if need be. But it is the patient's condition and not the stage of labor which should decide when and how to use the anæsthetic.

DR. J. C. HOAG: There are a few things I wish to say. In the first place, with regard to the way in which I have been misquoted. I was very particular to say that I did not regard every case of infection as attributable to the physician. I do not believe it for a moment. I was also quoted as saying that the physician, and not the attendants, infected the patient. I used the word attendants purposely so as to include the nurse, mothers, aunts, neighbors, etc. The statement has been made here and elsewhere that in nearly all cases of septic infection it is due to the septic matter on the physician's hands or instruments. I have never made this statement.

My experience with the douche began about six years ago, and I have had rather an extensive experience with it. When I was still an interne in the hospital I was required to give intra-uterine douches of large quantities of water every three hours day and night, for several days, so that two

patients was all that I could attend to. I found that it is not by any means an easy matter to give an intra-uterine douche in all cases; sometimes there is great difficulty in inserting the nozzle of the syringe, and a great amount of pain, as well, to the patient. So that the pain is less in treatment with the curette than with the douche, because the curette does once for all, whereas the douche has to be frequently repeated. The gentlemen at first seemed to point out the dangers of the curette very vigorously. I wish to have a few words to say on this subject. What they seemed to have in mind was a large, flabby uterus, that had not begun to contract, and that had extremely thin walls. I particularly pointed out the applicability of the curette in cases of abortion. Dr. Potter was the first to take this up and point out that the uterine walls in abortion are thick. I remember a case where I curetted the uterus after abortion, and finding the next day that the organ was still large, I wondered whether I could have left in there any considerable amount of placental tissue or any part of the fœtus. It did not seem possible, although the curetting was done under rather difficult circumstances. So I made an examination and passed my finger clear up to the fundus and got the uterine walls between my two fingers, and was perfectly astonished to find how thick these walls were. It would have been as difficult to force the instrument through that uterine wall as through a person's cheek. Blunt curettes have been spoken of, but a blunt curette may be of a very small diameter, and in that way it would be possible to pass it through the uterine wall. The instruments I speak of are very broad, and their scraping surface is more than half an inch, and it would be very difficult to pass an instrument like that through the uterine wall. The curette seems to some too difficult to use. I have not found it so. I have seen it used in the hands of very expert operators, and in the hands of

very inexperienced operators, and I have learned as much from one class as from the other. It should be used with care, but I have not had any feeling of uncertainty in using it. I use it carefully, and control the uterus by holding it with a double tenaculum.

Dr. Earle, I think, rather took me up with regard to bits of retained membranes, etc. I think if the patient is properly attended in labor you can leave tremendous pieces of placenta and membrane in the uterus, without injuring the patient, if she is in an aseptic condition. I may say that the retention of placental tissue may give rise to bad results in the end, as sometimes they are retained indefinitely and result in the formation of polypi, or fibroid tumors. I have been interested in finding out why women abort so frequently. We generally attribute it to traumatism, but I do not think that is the case. I think abortion is much more common from other causes, and particularly so from disease of the placenta itself. I think the placenta should be removed immediately at the termination of labor, or, at least, in a few hours, and not left there indefinitely. The danger I was getting at was the *remote* danger to the patient. I think Dr. Hoadley must have been exceptionally fortunate in his cases. He apparently has never run across an adherent placenta where there is a great proliferation of connective tissue, so that it is almost impossible to get it away entirely. I remember a case where I curetted a woman who had aborted at about the fifth month, and the placenta remained there twelve or fifteen hours. I curetted then, not so much to get it out immediately to prevent infection, as for the fear that hæmorrhage would be set up. Dr. Harcourt thought the curette should only be used to remove the *debris* of placental tissue; but if a woman aborts in the early weeks of pregnancy the *entire* placenta may be there, and I do not see any counter-indication to removing all of it. In the

case where I curetted, fearing hæmorrhage, after fifteen hours, the patient had had pretty strong contraction pains, but there was no loosening of the placenta, and yet I had no difficulty in removing the whole placenta without introducing the hand into the uterus. The patient made a beautiful recovery. I did not care to go into the pathology of puerperal infection very extensively, but I do not think any of us would have difficulty in finding out where the inflammation was: if the patient's parametrium was filled with exudate I do not think any of us would be inclined to curette the endometrium with a view to prevent an infection which had already taken place.

ALLEGHENY COUNTY MEDICAL SOCIETY.

Special Meeting, December 15th, 1888.

J. CHRIS LANGE, M.D., VICE-PRESIDENT, IN
THE CHAIR.

Dr. DUFF reported a case of
PAINFUL JOINTS, WITH MIXED PAPILLARY AND
PUSTULAR ERUPTION.

I was called this evening to see a girl thirteen years of age. Two years ago she was down with inflammatory rheumatism. She came home last Wednesday from school, complaining of slight pain in one of her ankles. There was no perceptible swelling, her mother stated, but the pain increased slightly until Saturday, when the other ankle became affected. On Sunday a papillary eruption appeared on the first ankle, and on yesterday morning a very free eruption appeared on the other ankle. Yesterday afternoon the wrists and elbow on the right side began to swell and pain her, and simultaneously with the swelling, this papillary eruption appeared on both the joint of the elbow and of the wrist, and about this time the eruption became pustular upon the ankles. This afternoon she was taken worse, and simultaneously with the appearance of the pain, the swelling on the other arm and papillary eruption appeared. This evening I found her with a temperature of

104°, pulse 120, pustular eruption on both ankles, and upon the elbow and forearm on the left side there is a mixture of papillary and pustular eruption; whilst on the right arm it is papillary. No local application had been made to the parts except a little camphor liniment.

DR. DAVIS reported a case of

AMPUTATION THROUGH DOUBTFUL TISSUES.

About two weeks since a strong, able-bodied Pole was admitted to Mercy Hospital. He was admitted on Tuesday. On the preceding Friday, while coupling cars in a coal works near Punxsutawney, his arm was caught in the coupling and slightly crushed. He brought a letter from the doctor who attended him at the time, Dr. Williams, of Brooksville, or Punxsutawney, stating that the blood supply to the hand had no doubt been entirely cut off, and that he had urged amputation, but that the man had positively refused to have this done, and preferred to go to the city and get advice. The bandage on his arm, I presume, had been none too tight; when I saw it the hand was perfectly black. On looking at the arm, every evidence of gangrene was present. The arm was swollen to almost twice its normal size, with the peculiarly marked discoloration of progressive mortification, with the blistering down near the elbow. The line of demarcation had extended over the top of the shoulder. The resident at the hospital, who had seen him two hours before, assured me that when he had noticed it, it was not within at least four or five inches of the shoulder, and yet in two hours it had advanced to the shoulder with a high elevation, so that by passing the finger over from the healthy tissue to the diseased, you could readily discern the line of demarcation. The man's temperature was about 105°, his countenance anxious, his whole appearance that of one who had suffered an extreme shock to the system, and in whom disease was progressing rapidly. His condition was really critical, so critical that I felt that all hope

of his life was surely gone. I called in some of the other gentlemen of the Hospital, and we concluded, at all events, not to let the man die with that black arm, as an amputation was really the most we had to hope for. I amputated the arm at the middle by the circular method, cutting through tissue absolutely black, cutting down through the fatty tissue of the arm and down to the muscular parts, the muscles having become not as yet thoroughly involved. I removed the arm, and then applied almost boiling hot water, and then bichloride solution, 1 to 1,000. I pressed out with the bandage as firmly as I could from the shoulder down all this material, and then filled the conical cavity full of iodoform, put a piece of cotton around, and left it. The man is rapidly improving, and will recover. I know that usually the surgeon who would have done this with any expectation of the recovery of the patient would have been considered very ignorant indeed; but I believe recovery was owing to the powerful antiseptics used, and to the use of the boiling water and the solution of bichloride.

DR. MURDOCK: A very interesting case, I think, has been reported by Dr. Davis, and one that is instructive to us all. The old rule in surgery in regard to amputations in such cases was that in gangrene which arose from a constitutional cause, such as is the case in senile gangrene or as is the case where gangrene attacks a patient suffering from diabetes, to wait until the line of demarcation was formed. So also in some cases of gangrene resulting from local causes, such as frost-bite, the rule was to wait until the line of demarcation was formed; but in cases of injury, like the one related by Dr. Davis, I think that the rule was never thoroughly observed by the best surgeons, and that even the older surgeons advocated amputation in certain cases in vigorous patients while the gangrene was still progressing in cases of injury. But previous to the introduction of the anti-

septic method of treatment, no surgeon would have thought of amputating through or so near dead tissue as Dr. Davis did in this case, and if he had done so without such treatment, he would not have been successful: the gangrene would have extended. For that reason this is a very interesting and instructive case.

There is another point which is very instructive and useful. Dr. Davis tells us that the arm was bandaged very tightly above the wound, but he does not think the bandage had anything to do with the gangrene. Whether it had or not, I wish to call attention to something that should be known and well observed by surgeons. It has been my fortune, since I have been connected with the Western Pennsylvania Hospital and before, to see patients brought to the hospital with tourniquets on limbs pressing entirely too tightly above the wound for the purpose of arresting hæmorrhage. I have seen several cases brought, where gangrene has resulted from the tightness of the bandage above the wound, applied in one case by a doctor, and in several other cases by those not professionals. I know of one case where a man was brought not far from here, with a not very severe wound of the leg. A tourniquet had been on the thigh twenty-four hours, and the limb was in a state of gangrene. This was owing entirely to the tightness of the bandage. I have known several such instances, and also instances where patients have been brought with very slight wounds, there being only wounds of veins, the tight bandage distending the veins. Now these frequent accidents justify the belief that if there was none of this tight bandaging, there would be more lives saved than lost as a result. I think more people are injured by the tourniquet applied to wounds than are benefited. This is my experience in these cases. This practice arises from faulty ideas in the minds of the people, which have emanated from the profession. The

profession is accountable for the education which the people have, and the reason these cases are frequent is owing to the fact that the public cannot be instructed how to apply a bandage in case of a wound. It requires a great deal of experience to enable one to distinguish between the blood from an artery and from a vein.

The attempts to instruct men who are not professionals, who are not accustomed to observing severe injuries, result in more harm than good. The non-professional man, when he sees a wound, says to himself: "Now, this may be a wound of an artery or wound of a vein; I don't know exactly, but I will be on the safe side: I will put on the bandage above." Thus it happens that in every wound, severe or small, of vein or artery, the bandage is put on above the wound, and usually as tightly as it can be drawn. In nine cases out of ten these instructions result in injury. At a watering-place not far from this city, a little boy fell against a mirror and cut the veins of his wrist horizontally across. There were few gentlemen at the house, and the ladies were frightened; but there were some very intelligent gentlemen present. A tight bandage was put on above the elbow. The wound continued to bleed. Then they held the arm high up. It still continued to bleed. The boy bled for two hours, until the arrival of a physician. The physician stopped the hæmorrhage. He did it by removing the bandage. From like repeated experiences, I am of the opinion that the instruction being given to non-professionals results in more harm than help. If it be wise to attempt any teaching in the control of hæmorrhage, I would advise these rules: If the hæmorrhage be copious, and a bleeding point is seen in any wound, let it be covered by the finger point, and let this pressure continue until the arrival of a physician; if the bleeding be not copious, put a bandage, not above, nor below, but *upon* the wound.

DR. BATTEN: Dr. Davis was fortunate in

the ending of his case. I had some experience in hospital gangrene in '62 and '63. Many of the wounded at that time were afflicted with gangrene. If the leg was wounded, the gangrene would extend around the leg and expose the vessels before amputation was resorted to; but the gangrene was not arrested by the operation. It extended. And in many cases re-amputation above the knee became necessary. I believe the knowledge that is being sown among the laity regarding the care of the wounded is more harmful than beneficial. Persons not accustomed to handling wounds are timid; if they do anything, it is as likely to be wrong as right.

DR. BUCHANAN: I think Dr. Davis is giving rather more credit to the antiseptics than is justified by the case. No one, I think, can be a firmer believer in antiseptic treatment than myself, but I believe that Dr. Davis rather overrated the influence of his antiseptic agents in this case. Either the flaps in this amputation were dead or they were alive. The outcome of the case shows the flaps were alive; but the antiseptic agents are not to be credited as preserving them. Either the lymph channels were swarming with bacteria or they were not. If they had been so swarming, I do not think any application of antiseptic agents would have destroyed the micro-organisms they contained. I believe the man was suffering from the presence of the decomposing member, and that when Dr. Davis removed that, he removed the cause of the disease, and that probably if he had not used any antiseptic agent the irritation would have subsided as quickly.

I do not wish to be understood as saying that the outcome of the case would have been as favorable; in all probability, he would have had suppuration and trouble, but from the description of the case, I believe that the majority of men so affected would recover without antiseptic agents—not so nicely, indeed, but they would recover. I don't believe in giving more

credit to the antiseptics than they deserve.

DR. DUFF: It is of importance, very frequently, that the non-professional who may witness an accident involving dangerous hæmorrhage shall possess the knowledge and skill to arrest this until the arrival of the surgeon. I have twice hastened to such cases to find the patients dead of hæmorrhage. It is to be regretted that the instructions now being given to engineers, firemen and the police are lacking in practicability; still they are, perhaps, better than no instructions,

DR. DAVIS: In reply to Dr. Buchanan, I believe that until very recently, there is no authority for cutting through gangrenous parts. I do not know whether there were any bugs in the lymphatic system of this patient's arm or not. I am not much on bugs. I believe it was the hot water and the bichloride. The tissues were full of gas and the cutting pressed the bubbles of gas out, but whether there were any bacteria in them or not, I don't know.

DR. J. J. BUCHANAN read a paper on an
UNUSUAL RESULT OF LONG-STANDING TARSAL
CARIES.

The patient, a girl of sixteen years, came under my care in June last, with the following history: Family record free from tubercular or specific disease, health perfect till close of third year, when a bleb appeared over the outer aspect of the *os calcis*, which subsequently broke down and formed the extremity of a sinus leading to the bone. This sinus remained open for years, occasionally discharging detritus of carious bone, till eventually the posterior portion of the calcaneum was entirely gone. Sinuses then formed in other parts of the ankle and lower part of the leg. During these thirteen years her health has been precarious, severe illnesses alternating with periods of comparative health. Some weight could be placed upon the toes till about five years ago, since which time the limb has been perfectly helpless and its great weight has made it much of a burden. For

that length of time she has been obliged to walk on crutches, and the weight of the limb permitted almost no walking outside the house. She has long been unable to move any of the toes or her ankle in the slightest degree.

When I first saw her, her nutrition was fair, pulse 90 to 100 and temperature normal. The limb from the knee down was enormously enlarged and, at the calf, was thicker than at any part of the thigh. It had the shape precisely of a limb the subject of elephantiasis; the skin, however, was comparatively normal, a little thickened and glazed about the ankle. A number of sinuses opened about the ankle and lower part of the leg, all of which apparently led to the astragalus. The condition of the foot precluded the idea of any conservative operation, the only question being whether to amputate through the leg or at the knee. I amputated about the middle of the leg by antero-posterior flaps, using antiseptic precautions. The muscular tissue at the point of section had entirely disappeared and had been replaced by connective tissue. The flaps cut like salt pork, very heavy, inelastic and were made up entirely of connective tissue, with gaping vessels traversing it, and imbedded in it an occasional tendon. A single sinus in one of the flaps required scraping with the sharp spoon. The bones gave evidence of chronic inflammation. The larger vessels were secured by passing under them a needle armed with catgut, and tying them *en masse*.

Subsequent dissection of the amputated part showed its soft tissues to be in exactly the same condition as existed above; careful search failed to reveal a remnant of muscular fibre in the foot. There was complete disorganization of the ankle-joint, absence of the posterior portion of the calcaneum and beginning disease of the tibia.

The stump healed by primary union and the patient was out of bed on the ninth day. Five months later, her attending physician, Dr. Cyrus McConnell, wrote me that the remaining part of the leg had diminished to about the size of its mate and that her restoration to health had been complete.

As to the pathological condition existing here, I suppose that during these thirteen years of inflammation and caries of the tarsus, there had been a constantly increased supply of blood sent to the foot, and that this had caused the enormous overgrowth

of the connective tissue of the limb. Dr. John H. Packard, to whom I related this case, suggested that probably there was also an involvement of the lymph channels as in the so-called elephantiasis. I report this case for the reason that I have no knowledge of any similar one, and the literature at my command does not describe this pathological condition as resulting from carious disease.

DR. DAVIS: I think in my experience I have seen a case very similar to Dr. Buchanan's. It was a case of caries of tibia of long standing, in a young woman. I cut down on it and scraped and worked around it in the manner of bone scrapers, without hope of doing her much good. The tissues struck me as being in just the condition that the doctor describes. The part did not heal kindly, and after some weeks the limb was amputated above the knee by my colleague, Dr. Dickson. The description of the tissue makes the two cases very similar.

DR. ALLEN then made some remarks upon
SYMPATHETIC OPHTHALMIA.

The fact that there is nothing in the whole domain of medicine more important than the saving of the remaining eye to the man who has already lost one, will justify the time I shall consume upon the subject. I will not go into a lengthy discussion of the cause of this affection: some men believe that the germ of suppuration travels from the affected eye through the optic nerve to the sound one: some explain it through the sympathy of the ciliary nerves: whatever the cause, the point I wish to emphasize is, the early removal of the injured ball. "Save the eyeball" is a too frequent cry in cases of injury even after the sight is destroyed. It is a cry that is ominous to the patient. Whether there is a foreign body in the ball or not, (a matter which cannot always be determined), whenever the sight has been destroyed and there is any irritation in the sound eye, early and complete enucleation is the best treatment. The injuries that in my experience are most frequently followed by sympathetic ophthalmia are those through the junction of the cornea and sclerotic, involving the ciliary body. When such an injury exists a sharp watch should be kept for the advent of sympathetic inflammation, and upon its appearance immediate removal of the wounded ball is indicated.

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**TWO CASES OF INTUSSUSCEPTION IN
INFANTS: LAPAROTOMY IN BOTH;
INTESTINAL EXSECTION
IN ONE.**

BY ALBERT B. STRONG, M.D.,

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I was called at a late hour on the night of May 10, 1888, in consultation with Dr. E. E. Holroyd, to a case of supposed intestinal obstruction.

The history (as given by Dr. Holroyd) was as follows: A. C. W., a large, well-developed nursing infant $5\frac{1}{2}$ months of age, who was first seen on the forenoon of May 8th. He had been ill several hours; vomiting and having stools at intervals of three or four hours. The first one was blood and the subsequent ones bloody, sero-mucus, and quite profuse. These had the peculiar odor of severe intestinal catarrh. There was a previous history of constipation: temperature 102° ; pulse 130; respiration accelerated, but of natural rhythm. Abdomen normal, except a slight tenderness in the right inguinal region.

May 9th, at 9 A. M., temperature normal; pulse 100, respiration quite natural; vomited less frequently and takes the breast which the day before he refused. Two passages from the bowels since first visit, of similar appearance, but less profuse. At 9 P. M., his condition was unchanged.

I was called in at 8 A. M. the following

morning as fecal vomiting had occurred. I found the abdomen somewhat tense; detected a lump with tenderness in the right inguinal region. The father being out of town, I explained to the mother the probable condition of invagination, and administered two large enemata, but without benefit. An operation was then suggested, but I could not get the mother's consent. Temperature normal; pulse 140; respiration 40.

At 3 P. M. temperature 99° ; pulse 150; respiration 40. Fæcal vomiting continued. No more stools.

At 8 P. M., temperature was 100° ; pulse 150; respiration 40; vomiting; no stools. At midnight the father returned and consented to an operation.

An hour later when I saw the child, his condition was as follows: The general appearance indicated pain and approaching collapse. The face was slightly flushed; pupils widely dilated; eyelids twitching. The movements of the body were restless, the head being turned to and fro. The expression was peculiarly pinched in appearance. The abdomen was very much distended, tympanitic, and tender on pressure on the right side, where a small circumscribed tumor could be felt over the ileo-cæcal region.

Under a few whiffs of chloroform the abdomen was opened in the median line, when a small quantity of serum escaped.

There was no exudation of lymph, though the intestines and mesentery were markedly congested. The small intestine was distended to its greatest limit with gas and fluid contents. An unusually long mesentery was attached to the cæcum, so that it was easily lifted out of the abdominal cavity. The last fourteen inches of the ileum had passed through the ileo-cæcal valve, completely distending the cæcum and the first inch or so of the colon. The tumor thus formed was about four inches in length and an inch and a half in diameter. The invaginated intestine was easily withdrawn through the ileo-cæcal valve, when it was found that about nine inches from the large gut the ileum was again invaginated into itself for a distance of two or three inches. It was impossible to completely reduce this, since the parts were much swollen and agglutinated by inflammatory lymph. The lumen of the gut was completely occluded just above and below this tumor. The intestine was in a fairly healthy condition. The invaginated portion, about five inches in length, was removed, and the ends of the intestine united by the Lembert suture. The mesentery, which had been cut off close to the bowel, was attached to the line of union of the intestine. The operation lasted an hour and a half, the child surviving it only a short time.

Case II.—Eight years ago my own son, a nursing baby of 12 months of age, while playing on the floor, a perfect picture of health and activity, suddenly cried out and began to strain as if at stool. The child had never been ill; his bowels had always acted regularly and naturally. This attack came on at 10 o'clock in the morning. It lasted but a moment, when he resumed his play. Similar attacks came on at intervals of about twenty minutes. When I saw him two hours later he had just had his first bloody passage. During the afternoon he voided several small passages stained with blood and mucus.

About three o'clock Dr. G. W. Hutchins was called in, and under chloroform we administered a rectal injection of water, completely distending the colon throughout its entire length. The straining still continuing, Drs. Powell and Bogue were called in at 8 P. M., chloroform and rectal injection being repeated. The child rested quietly till 12 o'clock, midnight, when the straining began again. At 8 o'clock next morning Dr. Powell, assisted by Drs. Bogue, E. Ingals, Hutchins and the writer, opened the abdomen in the median line, and readily turned out the cæcum. About six or eight inches of the ileum had passed through the ileo-cæcal valve. The act of turning these parts out caused a backward peristaltic wave of the small intestines to take place and the invaginated portion was crowded out of the ileo-cæcal opening; it was not pulled out. The parts were only slightly congested. The abdomen was quickly closed and dressed. A natural passage of the bowels took place eight hours afterward. For ten days everything went well; the wound had healed. There was no peritonitis. He seemed to be convalescing. On the evening of the eleventh day slight twitchings of the muscles of the face were first observed. He died before morning in general convulsions.

In neither of the cases could any satisfactory cause of the invagination be given. Both children were remarkably healthy up to the very moment of the attack. In one there was a tendency to slight constipation. In the other, about two hours before the first symptom of trouble was present, the mother changed the diapers which had just been soiled by a perfectly free and normal motion. The child was always delighted to have his lower body free, and during this particular act of changing the tidy was possibly more hilarious than usual, kicking and crowing with the greatest glee. There was one peculiar motion he was accustomed to make on such occasions; it consisted in drawing

his feet up by the sides of his head and forcibly throwing his legs downward across his mother's knee, thus bringing considerable sudden strain upon his lower abdomen. No other possible cause could be assigned, and this does not seem to be adequate to produce the trouble.

In operating on both these infants it was particularly noticeable how easily the cæcum was brought to the external surface through the median incision. It is well known that in the adult this cannot be easily done. Whether or not it is a normal condition for the cæcum of a child to be so much more movable than in the adult, I am unable to say. The text-books are silent on this point.

As to the treatment of these cases all agree that drugs are powerless. Surgery to be effective must be resorted to early. On the very first appearance of the symptoms indicating intestinal obstruction, rectal insufflation of hydrogen gas or atmospheric air should be resorted to at once. This plan is much better and safer than to fill the colon with water. The lightness and distensibility of these substances are in themselves enough to recommend them. Besides, water cannot be forced beyond the ileo-cæcal valve. On the other hand, Senn has demonstrated that the whole alimentary canal from anus to mouth can in nearly every case be easily and safely distended by rectal insufflation of hydrogen gas with a pressure varying from one-half to one and a half pounds. I am firmly convinced that had this plan been used in the second case here reported the intussusception would have been reduced without further operation.

If the apparatus for generating and using hydrogen gas is not at hand, air from the lungs may be blown into a rubber hot water bag or fountain syringe and so passed by a rectal tube into the anus. If, after a moderate trial of this method relief is not obtained, the knife must be resorted to at once.

Those of us who saw much of herniotomy for strangulation before the days of antiseptic surgery, have a very vivid recollection of the great mortality of the operation in comparison with its great success at the present time. The difference depends not so much upon modern technique as upon operating early before local changes have taken place in the constricted part. So in intestinal obstruction delay is dangerous. Do not wait for stereoraceous vomiting, or to feel a lump in the iliac region. Open the abdomen in the median line, and do what you find there is to be done.

While I recommend in these cases rectal insufflation of hydrogen gas or air in preference to filling the gut with water, we must remember that not in all cases of perfectly pervious intestine will air distend the entire alimentary tract. I recently made laparotomy for gunshot wound of the abdominal cavity where before and after the incision we were unable to distend the bowel with air beyond the ileo-cæcal valve.

312 WEST INDIANA STREET.

THE TREATMENT (NOT PREVENTIVE) OF PUERPERAL FEVER.

BY CHARLES WARRINGTON EARLE,

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The remark has been made that in consequence of the general use of antiseptics in Germany, there is no opportunity for studying septicæmia—that the disease in fact is vanished. To such an extent is this true that in some of the prominent journals devoted to obstetrics there is scarcely an allusion to the treatment of puerperal septicæmia during the past three years.

But in a certain percentage of cases infection has taken place. The chill, increased temperature, and the pelvic distress are all, or partly, present. Some way, either from the doctor, the nurse, or the patient herself, the infectious element has gained lodgment in the parturient's system.

Apart from these three sources from which the infectious material is usually furnished, a careful study of the subject leads me to believe that sometimes the condition which we have heard so ably discussed this evening, may arise from some old suppurating point hitherto not discovered, and in this way certain cases of puerperal fever, the origin of which it is extremely difficult to understand, is explained.

For instance, supposing a woman has an old pyosalpinx, which has remained quiet for months, and possibly years, the traumatism and pressure incidental to parturition, may, it appears to me, relight this process, and be a cause for either local or general infection. But whatever the cause, the phenomena of puerperal fever are present. Dread it, as we all do, it will come to us, not that it may be in our own practice, but to those who seem to delight in rejecting methods which almost insure immunity against it. In hospitals, which in olden times were justly regarded the hot-beds for puerperal fever, we find but few cases. An epidemic of puerperal fever in a modern hospital would at once be regarded as proof that some one had blundered. We must still be prepared to fight it in private practice. How shall we treat it? Mainly by the following processes and agents:

- (1.) The vaginal douche and antipyretics.
- (2.) The intra-uterine irrigation and antiseptics.
- (3.) Curettement and antiseptics.
- (4.) Drugs.
- (5.) Surgery.

The following tissues and organs, according to the classification of Spiegelberg, must receive the local and general treatment. Not any two cases can be treated alike. Sometimes it must be a local remedy, at other times the removal of infective detritus. In other cases surgery, and in others nothing but drugs, from which we in many cases see absolutely no effect:

1. Inflammation of the genital mucous membrane—endocolpitis, and endometritis.
 - a. Superficial.
 - b. Ulcerative (diphtheritic.)
2. Inflammation of the uterine parenchyma, and of the subserous and pelvic cellular tissue.
 - a. Exudation, circumscribed.
 - b. Phlegmonous, diffused; with lymphangitis, and pyæmia (lymphatic form of peritonitis.)
3. Inflammation of the peritoneum covering the uterus and its appendages—pelvic peritonitis, and diffused peritonitis.
4. Phlebitis uterina, and para-uterine, with formation of thrombi, embolism, and pyæmia.
5. Pure septicæmia—putrid absorption.

If we have the first condition, a superficial vaginitis or endometritis, we should use local disinfection, iodoform, boracic acid, and, possibly, for the endometritis, the intra-uterine douche followed by the iodoform bacillus. The deep form of ulceration (and, possibly, diphtheritic) must be met with local cleanliness and applications of some destructive agent, such as the chloride of zinc in proper solution, the bichloride of mercury, with applications of iodoform or boracic acid. Every diphtheritic patch must be touched with the local application, and the parts thoroughly washed out with an antiseptic fluid. Patches which can be reached should be packed with iodoform gauze.

In the second condition, inflammation of uterine tissue proper, with circumscribed exudate, we should satisfy ourselves that no local point of infectious material remains, and treat the patient by insisting that she remain in bed till all pain subsides, meet all drug indications that follow, and follow with hot vaginal douches for a long period, to which should be added a generous diet and tonics. If the para-uterine tissues are involved (connective tissue immediately adjacent to the uterus) we must administer anodynes, use fomen-

tations, and relieve the symptoms produced by exudates in the vicinity of the bladder and other pelvic organs.

With the use of the above treatment, with hot douches, the mild and uncomplicated cases disappear, and the formation of pus is the exception. Sometimes, however, we have a hard tumor remaining for a long time, which is usually dissipated by counter-irritation, hot injections, good diet, and tonics.

Pelvic peritonitis and general metropertitonitis are among the fatal forms of puerperal fever, although the first will usually recover if the source of infection is not too pronounced. General peritonitis is extremely dangerous, and in the majority of cases, under the old régime, absolutely fatal. In addition to the anodynes, which have for years been our sheet-anchor, and which in some cases are pushed in enormous doses, the question of drainage will certainly arise. It is an open question with me to-day whether such large doses of opium, producing constipation and retention within the system of germs, is the best treatment. The abdominal cavity will be found filled with brownish or green fluid, and without its removal any treatment will be futile. It is in the first stage of this form of the disease that cocaine for vomiting, rectal injections of hot water for the extreme thirst, and saline laxatives as local depletants, should be used.

The treatment by salines or laxatives is based upon actual observations and clinical experience. It has been known for a long time that some of the inferior animals poisoned by septic matter recover after a long and persistent diarrhœa, and the usefulness of laxatives in puerperal fever has been strongly recommended by Latour Seyfert and Breslau (Schroeder). The best hope of eliminating the poison comes from this method, and not only this, but their administration reduces the fever, and the pain becomes less. Sometimes nature does better than the doctors, and a diar-

rhœa is set up at the commencement, which persists until convalescence is established. If diarrhœa is present without laxatives, this is all that is needed. If not present, and the administration of salines does not produce it, the prognosis is bad. Eulenberg assures us that no fear need be entertained that the copious discharges from the intestinal canal will weaken the patient, or that there will be any trouble in checking them at the proper time. The great weight of authority at this day is in favor of this treatment.

Among the remedies to bring about and continue this method of cure may be mentioned the bitter waters, castor oil, jalap and calomel, Hunyadi water, and perhaps best of all, magnesia sulph. These are to be given in such doses and at such times as will influence and keep up the depletant effect.

The fourth form of puerperal fever in the classification I have chosen is *uterine phlebitis*, with or without metastatic abscesses. It will not be necessary for me to trace for this audience the history of a phlebitis, sometimes making its appearance as a painful spot in the lower limb, with increased swelling and pain, the indurated blood-vessels, the irregular chills, and indications of pus-points in different parts of the body. It is not new to class this as one form of puerperal fever, although there may be some who still believe in the old milk-leg theory of the ancient nurses and grandmothers.

The treatment is simple and trifling in some cases, recovery is rapid; the infection is only slight and local. In others absolutely nothing seems to do our patients good, and we must be content with tonic and stimulant treatment, with a generous diet to sustain the strength of the patient until the infection is worn out, which, after all we can do, after long weeks of suffering, will in many cases cause the patient to succumb. This infection takes place at the placental site, and it comes on so

slowly that the most experienced sometimes will not detect it. The poison is distributed to such remote parts of the body that we are disarmed at the very outset. We cannot reach with any known remedy the point of lodgment of emboli in distant organs; we can only destroy what remains of the infectious material at the original point of entrance, if we can happily discover it, and try to sustain the strength of the patient till nature effects a cure.

It is hardly worth while for me to say anything in regard to a treatment for pure septicæmia. Sometimes the symptoms of blood-poisoning are so intense that the patient will die without any local lesions. What can be done has either been brought out in what has been said regarding general medication, or will be noted in the remarks on laparotomy.

In all of these different manifestations, however, there underlie certain general principles which we should be ready to adopt. The first is vaginal cleanliness and antipyretics.

I know that in a few cases patients do not seem to do as well after even vaginal douches, but in the main it is because they are improperly given. Sometimes cleansing the vagina a single time will reduce temperature and alter the entire character of a threatened puerperal attack. If this does not reduce the temperature, then the next procedure should be an intra-uterine douche. This should be done with the utmost care and with a full realization of the dangers which sometimes take place. One about to give an intra-uterine douche should know that accidents sometimes happen from entrance of air into the uterine sinuses, and that sometimes a hæmorrhage is produced. We should know, too, that the injecting-fluid may be introduced into the general circulation by the introduction of the injection-tube into the mouth of one of the large sinuses; that convulsions and pain may be produced, and that fluid may be forced into the peritoneal cavity through

a Fallopian tube. If time permitted I could demonstrate that but little reason really exists for apprehending any of these accidents. Notwithstanding these dangers, however, it seems to me that the uterine douche is justifiable, and that in some conditions nothing will take its place. It is absolutely useless to administer drugs to a patient who is suffering from an infection from a retained placenta or from shreds of membrane, or from an old decomposing clot, or from retained lochial discharges. These must be removed, and the cavity must be kept clean. To be sure, we do not alter or change in any degree the infectious material which has been already absorbed into the system, but by washing away repeatedly these new sources of infection, we prevent the system from being re-loaded time after time by this poisonous stuff.

An intrauterine injection cannot be done with a half-ounce syringe and a goose-quill. One must realize the dangers, have the proper instruments, and know *how* to use them. The various steps are:

1. Clean the outside of the patient around the vulvar orifice.
2. Thoroughly cleanse the vagina.
3. Give the intrauterine douche.
4. Introduce iodoform bacillus.

Always have the stream of water running when the injection-tube is introduced into the uterine cavity. If the temperature does not fall in the course of a few hours, and there is a lochial discharge which is offensive, showing beyond a doubt that there is decomposing matter which has been infected in some way still remaining in the uterine cavity, it appears that now the time has come either for repeated intrauterine douches or curettement. I am well aware that there are cases which neither the vaginal, nor the intrauterine douche, will effect. Not every parturient canal is a traumatic channel—the poison is often elsewhere. There are cases of puerperal fever in which, it appears to me, it is

impossible to discover the exact *cause* of the infection or *its location*. If the infection has localized itself along the side of the uterus, and makes its appearance as a pelvic cellulitis, or as an inflammation in the broad ligaments, of course no good comes from repeated vaginal or intrauterine injections, but until we can demonstrate the localization of this poison the treatment by douches will give us the best results. Whatever the cause, the first thing we should do is to properly cleanse the vaginal tract and search for some point of infection in this location. If a perineum has been restored and sutures of any kind been used, unless union is perfect, which will be rare indeed if infection has taken place, it appears to me that at this point very careful search should be made, and in addition to giving a vaginal douche, in my judgment the patient will be placed in a safer condition if these stitches are taken out and the old lacerations thoroughly cleansed.

In regard to *vaginal douches*, I desire to say that I do not believe in doing *anything* to the parturient woman unless there are indications. But if a laceration has taken place, which has been closed by one, two or three stitches, at least a daily vaginal douche with either carbolized or bichloride water should be ordered.

Among the drugs recommended in the treatment besides those I shall mention incidentally in connection with other methods of cure, I shall speak of quinine, antipyrin, veratrum viride, turpentine, opium, iodoform, alcohol and hot baths. The use of the cold water coil and constant irrigation should also be mentioned.

Quinine is undoubtedly an excellent remedy, and may be used either in antipyretic or tonic doses. Sometimes we cannot do better than to employ this remedy throughout the course of a puerperal fever. Antipyrin has been useful in reducing temperature, but its liability to produce shock makes me careful in its use in a disease

which in itself severely taxes the strength of the patient. In the German Gynecological Society of 1886 antipyretics were discarded, while the advantages of hot baths and alcohol were reiterated. Professor Fordyce Barker will be remembered as the particular advocate of veratrum viride, a remedy most useful in some other diseases, but to me contra-indicated here as other depressants are.

Turpentine has been useful externally, and has been administered by stomach—indeed, no one other remedy seems to do quite as well when the patient has a red tongue and some other symptoms simulating a typhoid condition. It has been recommended recently by Thomas Madden in every form of puerperal fever.

Iodoform has been given internally in one case with good results.

The salicylates are also recommended, and theoretically they should do good in certain cases.

I have said all regarding the opium-treatment that seems to be necessary. It appears to me that in the light of recent investigations, any remedy which persistently constipates, presenting local depletion, is contra-indicated.

In the Transactions of the Ninth International Medical Congress, Dr. Nelson of this city speaks of the beneficial results from the sulpho-carbonic acid treatment. As far as I know, this remedy has not been used to a sufficient extent so that we can regard it as authoritative.

The use of alcohol in all forms of septicæmia is so well established that I need say nothing regarding its results.

The reduction of the temperature by cold water, used by means of the coil placed over the abdomen, is one of the best agents to combat this symptom, which I have ever employed. Kibbee's cots, by which a large extent of coil through which cold water is introduced, has also been recommended by some.

Say everything that we can in regard to

drugs, there is nothing which has been brought prominently to the front during the past one or two years. Without other means than internal medicine to combat some forms of puerperal diseases, we are almost absolutely powerless, and we stand by the bedside of our patients watching them as they come under the influence of the infectious material, and gradually failing until death closes the scene.

In the local treatment of puerperal septicæmia, says a recent author, "antiseptic intrauterine injections still hold their deserved preëminence. Bokelmann considers them indicated when forty-eight hours after birth the temperature rises to 101.5° or 102.2° Fahr., with frequent pulse without a recognizable cause for it; (2) when fragments of placenta or membranes remain in the uterus as a cause for disturbance; and (3) when symptoms of infection of the endometrium are present."

After vaginal injections and disinfection, followed by the intrauterine douche with the iodoform bacillus, if evidence still remains that decomposing clots or intrauterine debris of any kind are yet present, we should resort to curettement. I cannot see that the character of the pulse or any other symptoms can have much weight in causing us to decide in this manner. If there is evidence that any extraneous substance which has been infected is still left in the uterus, it appears to me it should come out. A stream of hot water cannot in some cases detach it. It still remains to again and again furnish infection, which is again and again to overpower the system. Take it away, not with a sharp instrument, not with manipulations which involve going through the uterine walls, but by first doing everything which has been suggested in the operation for the uterine douche, then curette, then give another douche, and follow with the iodoform bacillus. Such an operation as this carried out carefully, and with all antiseptic details, will sometimes change the

prognosis of a puerperal fever with remarkable rapidity. The fact that some one not skilled in the use of the instrument has perforated the walls of the uterus is no argument against the operation.

I have not time to enter into the treatment of all of the complications and sequelæ which sometimes arise after a case of puerperal fever. It must suffice to say in regard to local abscesses, for instance, if they are within easy reach, it is perhaps as good practice as any to aspirate. We know that sometimes after aspiration the abscess disappears, does not refill, the temperature goes down, and the patient makes a good recovery. If, however, the abscess-cavity does refill, it must be found and properly drained. Sometimes this can be done through the cul-de-sac of Douglas, at other times by opening the abdomen and draining from this point. In some cases of doubt, I have seen the abdominal cavity opened, and the abscess found; the fact is demonstrated that the sac cannot be either extirpated or brought to the surface of the abdominal wound, and consequently drainage must take place through the vagina, the abdominal wall being closed.

The relation of pyosalpinx to puerperal fever, and what shall be done with large collections of pus within the abdominal cavity, which sometimes follow in the course of puerperal peritonitis, is at this time receiving more than the usual amount of attention. Dr. Baldy, of Philadelphia, one month after labor has opened the abdomen and removed the right tube, which was distended with pus, and the patient, although in a very critical condition when the operation was done, rapidly recovered.

The treatment of metropéritonitis, or purulent peritonitis, has also undergone a great change. These cases have been regarded as almost hopeless. We have stood by the bedside of a woman with an abdomen enormously distended, and with all the symptoms of septicæmia, with undoubted evidences of pus in the cavity, and allowed

her to die without opening the abdominal cavity. This in the future will not do. There is testimony, which is increasing every day, that if we allow such a condition of things to remain without, at least, making an effort to save our patient by drainage we fall short of doing our duty.

One of the most important advances in obstetric surgery during the past two or three years has been made by Tait, who for some time has been advocating abdominal incisions, and cleansing of the peritoneal cavity in such cases. During these years he has been making appeals to the practitioners in his neighborhood to be allowed to perform such operations, which at this time have been done in a few cases with excellent results. An abdominal incision is made, the foul fluids cleared out, a drainage-tube inserted, and the wound closed.

Greig Smith makes the suggestion that in treating cases of suppurative inflammation of the peritoneum the intestines should be kept floating in a hot antiseptic lotion. The fluid which he recommends is the hot boro-glycerine solution, which is repeatedly passed in through a drainage-tube and allowed to remain in the cavity for a short time. The fluid should be at least 102° Fahr. This operation with its technique is suggested by two of our greatest operators, and all details are not worked out. The absolute indications and the results must be decided by future research. The results cannot possibly be more discouraging than from our past treatment.

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EXTRACTS AND ABSTRACTS.

Medical Treatment of Fibroid Tumors of the Uterus.—DR. BEDFORD BROWN, of Alexandria, Va., read a paper on this subject before the Southern Surgical and Gynecological Association in December, 1888. In regard to treatment he says: In the process of tumor building there are manifestly

two opposite pathological conditions, one a positive, the other a negative character, existing. These conditions consist of increased cell proliferation and organic growth, and deficiency of tissue metamorphosis to counterbalance the act of superabundant deposition. Therefore, whatever in the way of diet, regimen, exercise, period of life or other circumstances may tend to increase cell proliferation beyond the powers of nature to maintain an equilibrium, will, when brought to bear upon the uterine structure, promote the fibroid growth. On the contrary, whatever of food, habits, medicine or period of life will correct this perverted state of the nutritive processes of the part will diminish abnormal cell proliferation and restore healthy tissue metamorphosis, and must curtail fibroid growth.

I think there can be no question that discrimination in regard to the character of the food used by these subjects exerts an influence over the growth of fibrous tumors. This accords with my own experience. The curtailment in supplies of those varieties of food containing largely, if not wholly, of amylaceous and fatty materials does retard these growths. On the contrary, they grow more rapidly when starchy and fatty matters are more largely consumed. Lean fresh meats, green vegetables and fruits containing but little starch, skimmed milk and eggs, I have found effected this object best.

Then the power of ergot to diminish the calibre of the nutrient vessels of the uterus, and in this way curtail the hypernutrition and growth of the tumor is so well understood as to require scarcely a notice here, barely excepting the special preparations of that article and the method of administration. I have found the so-called normal liquid ergot of Parke, Davis & Co. an excellent preparation for internal or hypodermic use, and I regard it as particularly well adapted to the latter. It is very un-irritating, and acts with great promptitude

in arresting hæmorrhage even of the greatest magnitude. I believe that the continuous internal use of this article in twenty or thirty drop doses three times daily will accomplish more in the end than the hypodermic method. With this may be alternated a pill after the following formula:

R.

Ergotini.....̄ij
Strychninæ.....gr. j
Quininæ salicylat.....̄iiss
Acidi arseniosi.....gr. j

1 gr. pil xxx.

One of these should be taken three times a day in connection with the following combination of remedies:

R.

Flu. ext. hydrastis can.....̄ss
Aquæ cinnam.....̄v
Flu. ext. phytolacæ, decand.̄ss
Sodæ bicarb.....̄ij

M.

These remedies in this particular combination I have found useful in retarding and diminishing the growth of fibroid tumors.

The hydrastis and phytolacca both possess properties which give them power to retard abnormal uterine action and promote absorption. But I am persuaded that there are other therapeutic agents which, acting on the blood formation and through the circulation, influence the process of nutrition, rectifying that important function, when deranged, in a remarkable manner, and in that way correcting those excesses of local action which produce local disease and abnormal growths. Some years since, with a view of carrying into practice this idea, I began a series of experiments for the purpose of testing the influence on the progress and development of fibrous tumors by acting on the nutritive functions by means of those preparations containing phosphorus, lime and soda. I had at that time four cases of fibroid under my care. I selected to be used in these cases the syrup of the lacto-phosphate of

lime and the syrup of the hypophosphites of lime and soda, as prepared by McArthur. That was about eight or nine years ago. Since that time I have had nine cases under my care. Six of these cases have remained under my inspection, and with one exception are so decidedly improved as to need no further treatment. The one exception came under my care during the spring, and is now improving under treatment. Three of these cases aluded to have left my vicinity and migrated to a distance. In these cases the syrup of the lacto-phosphate of lime and the syrup of the hypophosphites were administered in teaspoonful doses each three times a day continuously for months, and with slight intervals, so as to give rest to the stomach, for years, that there might be maintained on the system a permanent influence.

The character of most of the cases subjected to this treatment was of the most aggravated form, and had previously been treated by means of ergot internally and hypodermically, the bromides, etc., without in any way retarding their progress. In some constitutions the response to treatment is much more prompt than in others. Some cases improve up to a certain point, then cease and wait for the menopause to complete the process. Some recover entirely before that period, while others again are very resistant to treatment in any form. But the treatment by means of the phosphates has given me far more satisfaction than any other.

This treatment to produce favorable results must be pursued systematically, regularly, perseveringly and continuously. Taking a retrograde review of the cases treated by myself, I will state here that the first two cases which came under my charge about thirty-five years ago, in absence of knowledge of better remedies were both treated by means of liquor arsenici et hydrargyri iodidi in one and two drop doses continued for two or three

years with occasional intermissions with a view to its alterative effect. The tumor in both of these cases was in the cavity of the uterus and submucous in character. The females belonged to the negro race and had borne children. In both there existed decided menorrhagia and one was subject to periodical hæmorrhages. In both cases also the uterus was distended so as to fill the cavity of the pelvis.

In the worst case after three or four years' treatment by this remedy the tumor began to diminish and finally became entirely absorbed. The other improved but did not recover entirely until after the menopause. Ergot was also used occasionally in both to repress hæmorrhages. It was about this period that Dr. Simpson introduced his treatment by means of the bromide of potash. I continued to use the treatment of Simpson I thought with some benefit, in connection with ergot up to the period when I adopted the use of the phosphates. Subsequently to these two cases I tested further the powers of the solution of Donovan, but was not so fortunate. The therapeutic action of the combination of the lacto-phosphate of lime and hypophosphites in the seven last cases coming under my care, has been exceedingly favorable and has been of a two-fold character.

The earliest perceptible effect exerted was on the tendency to hæmorrhage. In every case this tendency has been diminished and so decidedly lessened in most of them as to afford relief. In two cases, one of which was the worst in this respect that I ever witnessed, the hæmorrhages were frequent and often dangerous in extent. This patient after taking these remedies for three or four months found herself without her usual hæmorrhages, and not long after found herself minus her menstrual periods. She at once became alarmed and protested that she would take no remedy which would affect her in this way. She had a firm conviction that her condition was due to the remedy used. It

was suspended and after a few months the hæmorrhages returned. The remedy was a second time resorted to, and with a similar effect, and again suspended. Under treatment by the phosphates, and occasionally ergotine, and strychnine, the hæmorrhages finally ceased and the absorption of the tumors, there were three of them, progressed.

In the case of another patient while under the phosphate treatment a suspension of menstruation occurred and this patient refused to continue their use. While the tumor in this case was large and impaired the general health seriously, there were no hæmorrhages. The second effect of the phosphates in these cases is to promote absorption and arrest the growth of the fibroids. In all these cases there was arrest of growth and diminution. In several, to be more definite, in three, the diminution was very marked. In this case there was complete absorption. Thirdly, the action of the combined phosphates in these cases, in which there is always impairment of the general health, is to improve the condition in a manifest degree of the constitution and in every case have proven themselves genuine restoratives. In these cases in which our greatest renovator, *iron*, is inadmissible the phosphates fill a most important place. Following is an illustrative case:

Case I.—Mrs. M——, a lady, aged about 32 years, the widow of a confederate officer who fell at the battle of Seven Pines only two months after marriage. She has never borne children. She had a submucous fibroid distending the uterus to the full capacity of the pelvic cavity. Her general health was much impaired from the depressing influence of hæmorrhages, pain and local irritation. I presumed that the tumor had been in progress at least four or five years. Various medicines as ergot, the bromides, and iodides with tonics were resorted to without benefit. About this time from some cause not well defined ex-

tensive bronchitis with some indications of hectic appeared. For this complication McArthur's syrup of hypophosphite was used which was subsequently united with the syrup of the lacto-phosphate of lime. The symptoms arising from the tumor improved so much as to justify their continuation. After a time all hæmorrhages ceased and menstruation became regular and the tumor began gradually to diminish and in two or three years of this treatment became so greatly lessened as to give no trouble. This patient subsequently removed from the city to a distant point. This was the first case in which I used the lacto-phosphates and hypophosphites in fibroid tumor of the uterus.

In the cases of excessive hæmorrhage it is our duty not only to adopt means to arrest the immediate attack, but to go further than that and so shape our treatment as to control or subdue that tendency. I believe the phosphatic treatment persistently pursued; the ergotine and strychnia internally, and the local application of the iodine and the extract or normal liquid ergot alternately every third day will so impress the general and local circulation and the process of nutrition as to regulate this peculiar tendency.

I attach very considerable importance to the influence of local treatment applied in this way as a means of aiding in controlling hæmorrhage, and promoting the reduction and absorption of the fibroid. The iodine and ergot are both readily absorbed and exert their peculiar influence with more or as much force than when taken internally. At all events in my hands the practical results have been good.

After witnessing the really marvelous effects of these agents in acute-glandular affections I am constrained to believe that they must exert a very great influence on the functions of that system generally as well as on the process of metamorphosis of tissue by promoting its disintegration and removal. In the administration of the

hypophosphites and lacto-phosphates in cases of grave malnutrition giving rise to serious local lesions, excessive exudation of morbid products or of abnormal cell proliferation producing unwonted tissue growth endangering health and life, I have found them to accomplish more than any other remedies. I wish to dwell more forcibly and specially on the necessity of the rapid and thorough *saturation* of the circulation with the phosphates of lime and soda, as a means of restoring the lost equilibrium of nutrition, arresting increased cell proliferation and exudation and promoting their absorption. Therefore, I contend these agents have not been given in sufficient quantity heretofore to regulate the process of nutrition. I have in grave and serious cases administered as much as a drachm of the syrup of the hypophosphites every two or three hours and two drachms of the lacto-phosphate three times daily until the object was attained. In summing up the results of medical treatment of fibroid tumors, it may be stated, that the continuous administration of ergot in the form of ergotine or fluid extract, does retard the fibroid growth, does lessen the tendency to hæmorrhage, and in certain stages of fibroid growth, on occasion of hæmorrhage, given hypodermically or per arm will arrest it. But at an advanced stage, when the growth of submucous fibroid becomes very great and the walls of the uterus have become very thin and attenuated from over-distention and absorption and paralysis of uterine muscle, then the ergot ceases to act as an hæmostatic. The fluid extract of hydrastis does act on the growth of fibroid to a limited extent by diminishing the circulation and also lessens the tendency to hæmorrhage. In my experience it acts better when given in combination with the *phytolacca decandra*.

Local treatment by means of iodine and ergot applied extensively over the cervix and roof of the vagina give important aid in promoting the same therapeutic results.

By a judicious and timely combination of the various therapeutic agents mentioned I believe the great majority if not all cases of uterine fibroid may be shorn of their worst features; that the sufferings of those so afflicted may be greatly alleviated; that life may be prolonged; that all may be benefited and certain proportions cured. I am in a position to assert truthfully that benefit has resulted from treatment in every case when the patient was under charge sufficiently long to get fully under the influence of medical treatment. Hence, I am convinced by a long and not very inconsiderable personal experience that medicine can do much and is capable of doing still more in the future for the benefit and relief of these cases.

Locking, Retroversion and Strangulation of Uterine Fibroids in the Pelvic Excavation.

—At the meeting of the Obstetrical Society of London on November 7, DR. J. MATTHEWS DUNCAN, in a paper on this subject, stated that locking in the pelvic excavation implied impaction not the result of adhesions. Its effects might be produced by pressure into the pelvic brim of a tumor too large to pass into the excavation. Retroversion of a fibroid closely resembled the retroversion of the gravid uterus in its characteristic form. The symptoms and treatment of the two conditions were nearly alike. Strangulation, with locking, of a fibroid, with or without retroversion, was a rare accident; a case was described. Dr. Duncan had not seen a similar case of strangulation of or by a gravid uterus.

MR. MEREDITH described *A Case of Locked Fibroid, treated by Supra-Vaginal Hysterectomy*: A single woman, aged 36, was admitted into hospital under Dr. Percy Boulton last May. A uterine tumor was firmly impacted in the pelvic cavity. For nine months the pressure of the growth on the neck of the bladder had led to frequent attacks of complete retention. The recurrence of these attacks had latterly been

avoided only by relieving the bladder at regular intervals of not less than two hours, both by night and by day. After unsuccessful attempts to dislodge the tumor from the pelvis by vaginal taxis, the case was transferred to Mr. Meredith's care, with a view to abdominal section. At the operation, performed by him on June 2nd, considerable difficulty was experienced in extracting the impacted mass, which, together with the uterine body, and its appendages, was subsequently removed by supra-vaginal hysterectomy. The tumor weighed two pounds, and was of the size of a large cocoanut, and consisted of a densely-packed mass of fibro-myomatous growths developed in the posterior wall of the uterus. The after-progress of the case was uninterrupted, and the patient made an excellent recovery, leaving the hospital exactly six weeks from the date of operation with the abdominal incision soundly healed throughout.

DR. GERVIS drew attention to the usefulness of a suitable pessary in preventing a recurrence of the downward displacement of a fibroid after it had been pushed up out of the pelvic cavity. He felt satisfied with hydrostatic pressure in cases where the taxis had failed, noting a case in his own practice resembling Mr. Meredith's.

DR. GRAILY HEWITT found that upward pressure and properly adapted vaginal support often proved sufficient to relieve impaction. In some cases impaction of a large fibroid was slow to cause difficulty in micturition; in others that trouble rapidly set in when the impacted tumor was small. In a very marked case a fibroid growth at the back of the uterus occasioned sudden impaction with retroversion and enormous distention of the bladder. Dr. Hewitt thought that cases of anteversion with hypertrophy of the uterus were sometimes mistaken for fibroids. In one instance proper diagnosis and appropriate treatment cured a case of this kind after several years of suffering. In another case, where

an egg-shaped tumor grew anteriorly, a little to the right side, a well-adjusted pessary was very successfully used and the tumor raised out of the brim. Its pressure had rendered the patient a complete invalid.

DR. LEWERS referred to a case where a uterus retroverted by fibroids caused retention of urine in a woman, aged 49. The urine was drawn off, and the uterus replaced bimanually: then a large ring pessary was introduced. This was done two months ago. Dr. Lewers had seen the case recently, and found the uterus in good position; the patient had no trouble with her water. He mentioned this case because he gathered from Dr. Duncan's paper that, in similar instances, replacement, even when possible, was usually followed by recurrence of the malposition.

DR. AUST LAWRENCE (Clifton) found that in one case of retroflexed gravid uterus and in two of "locked fibroids" he was enabled to effect reduction by keeping the patient in bed in the semiprone posture for twenty-four hours. Without this kind of treatment, repeated attempts at replacement should never be made.

DR. CHAMPNEYS advocated hydrostatic pressure exerted by gravitation. He had found it succeed where taxis had failed, and he always used it after the failure of taxis before proceeding further. The mode of using it had been described in the *Lancet* some years back. It was conveniently employed by means of a child's air-ball connected with an irrigator. Any desired amount of even and continuous pressure could be applied and removed at will. A fibroid might be impacted for many reasons, such as bulk, cedema, adhesions, and expansion of the broad ligament. An air-tight adaptation was an obstacle to replacement; in raising a tumor in abdominal section a loud sucking sound was often heard. Hydrostatic pressure got rid of some of the cedema, adhesions could not be rudely torn, as by taxis, and the broad ligaments would

be unaffected. Thus the method furnished a valuable differential prognosis as to the possibility of replacement. He did not say that the tumor was replaceable in Mr. Meredith's case, but he should himself have tried hydrostatic pressure before resorting to abdominal section.

DR. PRIESTLEY remarked that Dr. Duncan's experience proved that, whether the pressure were made with the fingers or with hydrostatic bags as Dr. Champneys had suggested, and aided by the genu-pectoral position, difficult cases of impacted fibroid might be overcome provided that the pressure was made in the right direction for a sufficient period. Dr. Priestley thought that the alleged frequency of absolute impaction was overrated. The symptoms produced by pressure almost amounting to impaction were more frequent; these were retention of urine in certain cases, incontinence of urine in others. He had recently seen a patient who had a bulky fibroid, and was constantly losing large quantities of limpid fluid, supposed, at first, to be from the uterus, but ultimately proved to come from the bladder. Not only retroversion of a uterus bearing a fibroid could cause impaction, but also some forms of fibroid without backward displacement, particularly those ovoid forms in which the lower segment fitted closely into the brim and cavity of the pelvis. He had sometimes been surprised how small a degree of force exercised in pushing up the tumor from below would bring at least temporary relief. Prolonged and persistent efforts, with every precaution, should always be made to reduce the tumor, as Dr. Duncan advocated, before so grave a step as abdominal section was undertaken, although Mr. Meredith's case had proved so signally successful.

MR. MEREDITH stated that the absolute fixation of the pelvic tumor in his case, resisting all the repeated attempts to displace it, afforded ample justification for abdominal section as the only means of

relieving the patient. In his case atmospheric pressure had not much to do with the difficulties which he encountered. After partial dislodgement of the firm, incompressible tumor from the pelvic cavity, extraction was found to be impossible until some amount of enucleation had been practiced on the left side. This fact alone proved conclusively that nothing short of operation could have proved successful in affording even temporary relief to the patient's sufferings.—*British Medical Journal*, Nov. 17, 1888.

Arthrectomy versus Excision of the Knee.

—At the meeting of the Harveian Society of London on November 1, MR. PAGE read a paper on this subject. After reference to the reintroduction of the operation of excision of the knee by Sir Wm. Fergusson in 1850, and the success which attended it in the hands of many surgeons soon afterwards, the reader pointed out that the operation had subsequently fallen somewhat into disfavor because of the shortening which was found to result when the operation had been undertaken in early life. At the same time the propagation of the principles advocated by his text was leading surgeons to open and examine the insides of joints at a much earlier period in cases of disease, and they had thus been induced to remove diseased structures alone rather than perform the old excision. This had largely tended to make excisions of the knee much rarer than they had been, and the object of the paper was to point out the advantages and the importance of arthrectomy or excision of diseased structures at a sufficiently early period, so as to render any true excision unnecessary. An endeavor was made to point out the kind of cases suitable for operation—those which are more often seen amongst the poor than the well-to-do—but that there should be no indiscriminate arthrectomy in all cases, but only in those where rest was impracticable or had already been tried and found wanting.

The use of Thomas's splints had vastly improved the non-operative treatment of joint diseases, but nevertheless there were cases where the greatest benefit would be derived from an early excision and examination of the joint, so as to remove diseased structures only, whether in synovial membranes, cartilages, ligaments, or bone. By this plan not only were the parts about the joint placed in such a position that repair was possible, but there was also this advantage, that the tissues no longer provided a suitable nidus for the tubercle bacillus, even if that organism were not the real cause of the disease or were not already present in the joint. Remarks were also directed towards the result which it was desired to obtain—ankylosis, or a movable joint—and the reader spoke strongly in favor of ankylosis as being the best thing to be attained. It seemed a bad thing to attempt to gain movement by early manipulation, and before the parts were soundly healed, a practice not hitherto rewarded with much success, and in itself not free from risk. When movement was sought to be obtained, it was feared that the cavity of the joint might not be as thoroughly inspected as it ought to be, and diseased tissues might therefore be left behind. The object of the operation was thus not attained. Cases of Sendler and of Tilling were referred to in connection with this question of ankylosis or mobility. Mobility could only be expected in cases where the amount of disease was limited in extent, the very cases where there was difficulty in diagnosis, and where there would be hesitation to operate early. It would come to this, therefore, that in the great majority of cases which came to operation ankylosis would be the thing to aim at. The removal of diseased structures alone rendered it quite unnecessary to encroach on the growing ends of the bones, and there would be no shortening of the limb afterwards. In this respect arthrectomy was clearly a great improvement on excision, an opera-

tion which would have to be reserved for cases where there was ankylosis in a false position, or where, on opening the joint, the disease was found to have passed beyond the stage in which a mere arthrectomy would suffice. This again pointed to the advisability of early operation, unless there were the most distinct evidence of improvement of rest, for it was most desirable not to have to undertake in early life an operation at all like that of the old excision. At the close of the paper several cases were shown, and it was pointed out that some flexion which had occurred in two of them was really due to the plaster-of-paris splint having been left off too soon, and how necessary it was in all cases to maintain support to the limb until ankylosis was secure.

MR. EDMUND OWEN remarked that in operating it was necessary to make such an opening into the joint that every synovial crevice could be inspected and thoroughly dealt with, and for this purpose nothing in his opinion served better than the horse-shoe incision traversing the patellar ligament. In the knees on which he had operated, and which were nearly all in an advanced stage of the disease, he had taken away the crucial ligaments, and only by doing this could one reach that part of the capsule which covered the upper and back part of the condyles. He agreed with Mr. Page that in the present state of knowledge it was better not to think of securing future movement for the joint; that if the surgeon's mind were occupied with such thoughts, he was apt to deal less thoroughly with the articular cavity than he would do if his object were to secure a straight and rigid limb. Certainly to advise that movements be imparted to the joint before healing was complete, as some seemed tempted to do, looked like courting disaster. And not only should the limb be kept rigidly extended for months, or even years if necessary, but the patient should also be under prolonged and

careful supervision. The cases which Mr. Page showed were indeed a promising group, and some had borne the test of time extremely well: one must not flatter one's self that because a child went out of hospital with a straight limb after arthrectomy that the case must be written down in the notebook as "cured." Unfortunately this was not so, and his (Mr. Owen's) experience had been that in certain unhappy cases amputation had, after hesitation and regret, to be resorted to at last. The practical surgeon was anxious to know precisely which were the cases best suited for arthrectomy: children with chronic abscess and displacement at the joint, though generally deserving of trial, were those least suited for the procedure. But on the other hand, if one operated only in the early stages of the disease there was a risk of resorting to active interference where no such measure was needed. To admit that the slight cases gave the best results was not to pay the highest tribute to the operation; and if arthrectomy were too lavishly resorted to it would be expedient or even necessary to invite the attendance of Mr. H. O. Thomas at the Society to call attention to the fact that absolute and continuous rest for a joint, together with the adoption of constitutional measures, was a well-tried means of successfully dealing with chronic disease of the knee in children.

MR. SHEILD agreed with most of the opinions expressed by Mr. Page. Absolute immobility after operation was the main factor in success after either excision or arthrectomy. He had found actual cautery useful in the treatment of oozing from cavities.

MR. BARKER hoped that ultimately, by means of arthrectomy, movable joints might be obtained. However, at present it seemed advisable to keep the limb at rest for a long time. The question of movement seemed to depend upon the choice of cases; in those which now pre-

sented themselves there was so much destruction of the cartilage, that movement could not be hoped for. Contrary to the opinion of Mr. Page, suture of the patellar ligament ought to be practiced. He had found that shock, due to prolonged operations, was diminished by the use of hot water instead of the ordinary cool carbolic douche, which had also other disadvantages.

MR. PICK had been in the habit of performing a modified arthrectomy for fifteen years. He removed a thin layer of bone and cartilage, and all the synovial membrane. His actual arthrectomies had given him trouble because of flexion. The whole cartilage and crucial ligaments had not been removed in these cases. It was important to preserve the crucial ligaments unless they were diseased. The tendency to flexion lasted for years. Mr. Page had got the best result in the case in which he had removed the cartilages. The other cases still required supports, and he wished to know how long this must be continued. —*British Medical Journal*, Nov. 17, 1888.

Nerve Stretching in Leprosy.—DR. BEAVEN RAKE reports 100 operations performed on 60 patients. His paper (*British Medical Journal*, December 22, 1888) forms a part of a Government report on leprosy in Trinidad, and the operations were undertaken in consequence of some reports from India, in which the value of nerve-stretching in leprosy was spoken of very highly. Lawrie reported 30 cases in which the operation was done for anæsthesia, and says the operations were all successful. Downes has reported 32 cases of leprosy in Kashmir in which the operation was done. He says that all the cases were benefitted, and sensation restored almost to its normal condition.

In Rake's cases perhaps the most striking results were obtained in those cases in which the operation was done for pain, especially pain associated with perforating ulcer. In two of the cases the pain was

so severe that the patients begged for amputation; but after the nerves were stretched the pain vanished almost immediately. In another case, in which the right sciatic was stretched for painful perforating ulcer of the foot, the ulcer became cleaner, the pain vanished, and the relief was so great that the patient asked to have the operation performed on the left side for a similar condition of that foot. Here, however, the result was not so satisfactory, for, although the ulcer became a little cleaner for a few weeks, gangrene eventually set in in both feet, and the patient died five months later.

In another case there was temporary relief from pain, but the ulcers became gangrenous, and the leg was amputated at the patient's request. The posterior tibial nerve was greatly thickened, and gelatinous looking. The stump healed in two months, and the patient was soon about the ward on a wooden leg. In two cases in which the pain recurred four months and one year respectively after the sciatic had been stretched, the external popliteal of the same side was stretched with good result. In one case of supra-orbital thickening and neuralgia, probably associated with syphilis, mercury and iodide of potassium were given for four months without much result, after which the supra-orbital was stretched with immediate relief to the pain.

The operation was done for anæsthesia in 33 cases, but the operator cannot say that the results were very encouraging. In many cases no effect whatever was produced; indeed, in some old-standing cases the nerve was exposed without chloroform, and stretched, tapped, or pricked without the least complaint of pain or even of sensation. In some of the earlier cases there seemed to be some improvement of sensation a year after the operation, and in several other cases slight temporary improvement was noted. On the whole, however, the results cannot be considered satisfactory. In one or two cases improve-

ment of sensation has been noted a little over a year after the operation.

In 18 cases nerves were stretched with the object of watching whether any trophic effect would be produced on the growth of tubercle or general infiltration of the skin. Comparative measurements of fingers on the two sides were made, but no effect whatever could be traced to the operation.

In two cases the stretching seemed to facilitate the separation of necrosed bone. There was increased discharge from the sinuses, and fragments of bone were removed ten days and eleven days respectively after the operation. After this the ulcer nearly healed in the first case, and quite in the second.

In regard to the general results of the operation, there was more or less relief in 47 cases, no relief in 49 cases, and a doubtful result in 4 cases. Roughly, then, in 100 cases operated on, without any particular selection, it may be considered that more or less relief was given in half. The nerve, when exposed, was found to be enlarged in 48, or almost half of the cases; in 34 it was not enlarged, and in 18 its condition was not noted. The most commonly enlarged was the median; after that the ulnar and external popliteal. The sciatic was never found thickened.

Primary union was not obtained in many cases after the operation. Strong carbolic acid was applied to some of the more thickened nerves, and some of them were even scarified longitudinally, with the idea of destroying the bacilli to some extent, but no better result was noted after this procedure.

In the necropsies of some patients that died from other causes at longer or shorter periods after the operation, no naked-eye changes were found in the nerves that had been stretched, nor were any adhesions found, even when the incision had granulated up from the bottom. In one case only after operation the patient complained of pain beginning in the cicatrix over

the sciatic, and traveling down the thigh. Dr. Rake concludes that the sciatic is the most satisfactory nerve to stretch, for it is nearest the spinal ganglia and commands the supply of the whole leg and foot and back of the thigh. The chief indications for the operation are perforating ulcer, some cases of pain and necrosis whether associated with perforating ulcer or with peripheral neuritis without ulcer.

The most probable explanation of the influence of nerve-stretching on ulceration, neuralgia, or other conditions seems to be that given by Mr. Marshall in his Bradshawe Lecture in December, 1883, and based on the experiments of Mr. Victor Horsley. The latter has shown that when the sciatic nerve is stretched, the stretching is observed to affect the sacral plexus, and passes to the roots of the nerves, disturbing the dura mater and shaking the cord through the ligamentum denticulatum. Thus the ganglia of the cord are probably affected, and an excitation of the vasomotor centres or trophic centres is produced. Dr. Rake has repeated the experiment on the dead body, and found that when the lumbar dura mater was exposed from behind, no movement was to be seen on stretching the sciatic nerve. But when a window was cut in the dura a distinct downward movement or dragging of the cord was seen when forcible tension was exerted on the sciatic.

This theory seems to be supported by the following facts: 1. Stretching of the sciatic seems to be attended with better results than the stretching of such a nerve as the median, which is nearer the periphery. 2. Sometimes after stretching a nerve on one side of the body, sensation seems to be improved on both sides; which looks as if a greater nerve-storm had taken place, the ganglia of both sides being shaken or affected. This might of course depend on various factors, such as greater force used in the stretching, or looser sheaths of surroundings of the nerves.

Treatment of Phthisis.—BERLATERS reports (*Centralblatt für Klinische Medizin* September 8, 1888) 8 cases of tuberculosis treated with *aniline*. Of these 4 were in the early stage, 3 in the beginning of the last stage, and 1 was so far advanced in the disease that his death was expected in a few weeks. All these cases were cured or improved under the aniline treatment. The fever disappeared, the appetite was better, there was increase of weight, improvement of physical signs, and there were fewer bacilli in the sputa. The aniline was given in doses up to 12 drops, with a few drops of alcohol, and by inhalation of 25 or 30 drops. Some of the patients took, altogether, as much as two and a half ounces of aniline. The administration of the remedy should be interrupted for a few days from time to time, especially if the patient complain of lassitude and weakness in the legs. A greenish-yellow color of the skin may appear, but this disappears when the aniline is withheld for a few days.

GAGER has recently published records of 17 cases of phthisis treated with *hydro-fluoric acid*. For an inhalation-chamber he used a compartment of a wooden hut, well boarded, with a close-fitting window-sash and door; its capacity was about 250 cubic feet. In this space the patients, one, two, or three at a time were seated, their clothes being protected by sheets from the injurious effects of the acid. The gas was manufactured in an adjoining chamber, and conveyed to the ceiling of the inhalation-chamber by a leaden pipe.

As a rule the patients were ordered one sitting of an hour's duration daily; occasionally two sittings were given. In order to ventilate the apartment it was always necessary to open the door and window from three to eight times during the hour.

All the patients subjected to this treatment presented tubercle bacilli in their sputa; and Gager's investigation was

specially directed towards the antibacillary property of the acid.

All renal cases were excluded from this treatment. During the first three sittings all the patients complained of smarting and itching in the nose, of smarting in the eyes, and often of sneezing, which lasted for days. With some patients there was increase of cough, and even streaks of blood in the sputa; and the inhalations had to be stopped for some days on that account.

Of the 17 patients, 13 found their appetite increased after the inhalations. In one case there was slight epistaxis.

In 5 cases the bacilli disappeared from the sputa, and there was a marked improvement in the symptoms. In 7 cases the physical signs were distinctly improved. In 12 cases the body weight was increased, but the amount of increase appeared to bear but little relation to the improvement in the general condition; for example, in one case in which the bacilli disappeared and in which the physical signs improved there was no increase in the weight at all, and in another there was no improvement, though the weight increased almost four pounds.

Three of the patients had pyrexia; one lost it entirely, together with all the bacilli and expectoration: in the second case the fever decreased, and in the third it continued as high as ever. One of the patients had night-sweats, but they disappeared entirely.

In 7 cases the vital capacity increased to the extent of from 3 to 27 ounces. In 2 cases somewhat severe irritation of the laryngeal mucous membrane was set up, thus showing that this method of treatment is contra-indicated in cases of laryngeal phthisis—at all events, only a very small quantity of the gas can be given.

In 5 cases, including one in which laryngeal complications existed, no improvement could be noticed; one very advanced

case died. No evil consequences were presented in any of the cases.—*Lancet*. Sept. 22, 1888.

Congenital Lateral Deviation of the Eyes.

—At the meeting of the Ophthalmological Society of the United Kingdom on November 8, MR. SWANZY, of Dublin, narrated a case of conjugate lateral deviation of the eyes, probably due to a congenital lesion. The patient was a healthy child one year old. Both eyes were turned to the right, but could be turned to the left with an effort, yet not as far as the canthi, and when they passed the middle line the effort was attended with nystagmic motions. The associated action of the interni for the purpose of convergence was unimpaired. The vision was good, and the ophthalmoscopic appearances normal. After birth, the labor being natural, the child had not opened its eyes for four days, and from that time until it was two months old there was marked nystagmus in all positions of the eyes. From that age the relations, including the father, noticed the condition described, but the mother did not do so until the child was six months old, and after it had had a fall on the right side of its head, which produced a bruise. This fall was not followed by any head symptoms. Mr. Swanzy regarded the case as due to an intra-uterine lesion situated in the pons and implicating the nucleus common to the sixth and third nerves on the left side. The symptoms might have been caused by the fall producing a cortical lesion in the right cerebral hemisphere, but experience caused doubt whether a conjugate deviation due to a cortical lesion would be so permanent a symptom, while its permanence as the result of nuclear disease was in consonance with experience of nuclear paralysis in general. The evidence of all the relations except the mother was in favor of the deviation having been present before the fall. Probably the lesion was at first an irritative one and caused the

nystagmus for the first two months, and then it passed on to be destructive, but destructive only in such a degree as to lame without absolutely paralyzing the left nuclear centre for the third and sixth nerves. This seemed to be the only recorded case of congenital conjugate lateral deviation.

MR. DOYNE had seen an almost exactly similar case in a boy aged 9. It was found on examination by test types that the head, which was at first straight, gradually turned to one side. On close inspection it was seen that shortly after the attention was directed to the object nystagmus began, and then the head turned to the left, the eyes remaining fixed. There had been lagging of one leg in walking for two years, but it was not known if the ocular condition was congenital.

MR. LAWFORD mentioned that there was at least one case on record which seemed to bear upon the case just narrated. The case was that of a man who all his life had conjugate deviation of the eyes to the right. After his death it was found that the left internal rectus was absent, and that the right was exceedingly ill-developed. It was possible that a similar condition existed in Mr. Swanzy's patient.—*British Medical Journal*, Nov. 17, 1888.

Treatment of Tabes Dorsalis.—In the last few years STEMBO has had 39 cases of tabes under his care, and says (*Berliner klinische Wochenschrift*, Oct. 29, 1888) that the sooner treatment can be begun the better the result to be expected, since some cases are certainly curable. While syphilis may be a predisposing, and a proximate, cause of locomotor ataxia, this fact does not seem to be of value in the treatment of the disease.

Of Stembo's 39 cases, 24 were syphilitic, but none of these were benefited by anti-syphilitic treatment. Iodide of potassium did not help any of the cases, nor were good results obtained from arsenic, bella-

donna, ergot, or strychnine. Antifebrin in full doses was useful in relieving pain—much better than antipyrin and phenacetin. Cocaine gave good results in gastric crises. As to hydrotherapy, Stembo believes that the bathing resorts with warm baths are preferable in the early stages, especially for anæmic and weak patients. In more advanced stages, with strong patients, in whom an increased supply of blood is desired, cold water may be used; but care should be taken that the matter is not overdone. Cold sea-baths must be given with especial caution.

While electricity is decidedly the best means of treating tabes, it must be used with caution, and never by the patients. Stembo uses, in some cases, the constant current applied to the back, followed by the faradic current, or by franklinic electricity applied to the back. In other cases De Watteville's method of using the galvanic and faradic currents simultaneously is employed.

Electricity in Exophthalmic Goitre.—In the *Therapeutische Monatshefte* for October, 1888, PELZER reports the case of a woman, aged 42, who had suffered from nervous palpitation of the heart for several years. An examination a year before the case came under treatment showed slight exophthalmos and struma, with great palpitation. Under various methods of internal treatment the symptoms grew worse. All internal treatment was then abandoned, and treatment by the constant current begun, one pole being applied over the heart, and the other over the intersterno-cleido-mastoid fossa, the sésances being of ten minutes' duration. Subsequently the current was passed transversely through the spinal column. During the night an ice-bag was placed over the heart. There was scarcely any noticeable change during the first five weeks, but rapid improvement then set in, first shown by the slowing of the pulse, then by diminution of the exophthal-

mos, and finally by the retrogression of the struma. After six months' treatment the exophthalmos had entirely disappeared, and the patient's general condition was normal in every respect.

Fractures of the Epicondyles.—CHARCOT and FRAUCHET record two cases diagnosed as fractures of the epicondyles of the elbow, and draw the following conclusions:

1. Although Malgaigne denied the existence of such an injury, fracture of the epicondyles does exist. As yet it is only a pathological rarity, but this is because clinicians have not had their attention drawn sufficiently to this complication of fracture of the elbow.

2. The diagnosis of this epiphyseal fracture is most difficult in the first days after the accident, on account of the swelling, the large amount of extravasated blood surrounding the elbow, and the acute pain caused by palpation.

3. The prognosis of the injury is serious. The fracture of the epicondyles helps to make the luxation of the elbow irreducible, and in consequence of the contraction of the adhesions the torn epiphysis may interfere to a great extent with the movements of rotation of the head of the radius.—*Archives de Médecine et de Pharmacie Militaires*, November, 1888.

Salt Infusion in Acute Anæmia.—DR. C. MOREL, of Lausanne, reports a case of acute anæmia successfully treated by transfusion of a saline solution. The case was that of a woman, aged 39, who in the fifth month of her eleventh pregnancy became ill with gastritis, with high fever. The fever soon caused abortion, followed by profuse uterine hæmorrhage and uncontrollable vomiting. As the patient's condition grew worse rapidly, a litre and a half of a saline solution (a 6 per cent. solution of common salt in distilled water, heated to 37° C.) was injected into the central portion of the median cephalic vein. The in-

jecting apparatus consisted of a simple glass vessel, to which a piece of india-rubber tubing with a metal cannula was attached. The injection caused immediate improvement. The pulse, which had been irregular and almost imperceptible, became stronger and steadier. Dr. Morel hopes that transfusion of saline fluids will supercede blood-transfusion, which is much more dangerous and far less advantageous.

Bichloride of Mercury in Obstetrics.—SOMMER (*Charité Annalen* xiii Jahrgang) reports the results of the use of bichloride of mercury in 5,027 births. The strength of the solution used has been lessened from 1:1000 to 1:4000 for injection. Nineteen cases of mercurial intoxication occurred, with 1 death. Of these cases, 1 resulted from vaginal douches before and after labor; 4 from vaginal douches during the puerperal period; 4 from washing out the uterus after labor; and 10 from repeated uterine douches in the puerperium. It will be observed that intra-uterine douches are most dangerous.

The lowest septic mortality before the use of bichloride was 5 per cent.; during its use from 0.17 to 0.34 per cent.

Sommer believes that 1:5000 is the best solution for injections. For intra-uterine douches 3 to 5 per cent. Carbolic acid solutions should be used. For disinfecting the hands, 1:1000 bichloride solutions.—*Amer. Jour. Med. Sc.*, January, 1889.

Menthol and Iodoform in Surgery.—At a recent meeting of the Medico-Pharmaceutical Society of Bern Dr. GIRARD said that he had been led to try a mixture of equal parts of menthol and iodoform, in the form of a dry powder, in 14 cases of scraping out and resection of tuberculous bones and soft parts, the wound being either rubbed or plugged with the powder. In every case the wound healed more rapidly and kindly, and the whole course of the cases seemed to be more favorable than in another series

of similar cases in which iodoform was used alone. The menthol causes but trifling pain and local irritation, while it is said to be the best deodoriser of iodoform.

Dr. DE GIACOMI said that he had used a 20 per cent. solution of menthol in a case of lupus of the ear with satisfactory results.

Myrtol as a Respiratory Disinfectant.—EICHHORST reports several cases in which he has used myrtol internally as a disinfectant of the respiratory tract. A capsule containing 15 centig. of myrtol will produce a distinct odor of the drug upon the breath within an hour after swallowing it. In the treatment of putrid conditions of the lungs two of these capsules should be given every two hours. The amount of expectoration diminishes, and the general condition improves. So far as could be seen, the drug had no influence on the development of tubercle bacilli.—*Wiener Med. Presse*, No. 42, 1888.

Ergot in Heart-Disease.—ROSENBACH recommends ergot in the treatment of heart disease, to increase the activity of the walls of the bloodvessels, and to increase the pressure in the arterial system. He has found it useful in aortic regurgitation in "idiopathic" dilatation, and in cases of arterio-sclerosis. Ergot regulates the pulse, diminishes dyspnœa and palpitation, but has no effect on the œdema. It may be given in small doses every two or three hours.

Oleum Organum in Epistaxis.—LOUIS FISCHER recommends the use of oil of organum in epistaxis. He gives 5 drops three times a day, an hour after meals, and gradually increases the dose. One patient took 12 drops three times a day. On account of its disagreeable taste and smell it is best given in emulsion or in gelatine capsules.—*Medical Record*, November 17, 1888.

Helleborin as a Local Anæsthetic.—VITTOVIO and ELVIDIO, by using aqueous solutions of helleborin instilled under the eyelids in contact with the cornea, have obtained anæsthesia of the cornea that lasted longer than the anæsthesia caused by cocaine. At the same time, they say, the mobility of the eye lid was preserved, there was no dilatation of the pupil, and intra-ocular tension was not modified. Helleborin also caused local anæsthesia when used subcutaneously, but it produced cardiac disturbance. The drug has a powerful action on the heart, and should be used with great caution.—*Gazette Hebdomadaire*, Sept. 21, 1888.

Antiseptic Pastilles in Diphtheria.—VAUMOND recommends the following as prophylactic in diphtheria, especially for children that cannot gargle, and in whom pharyngeal applications are difficult:

Boracic acid.....	20 parts
Benzoate of soda.....	1 part
Oil of thyme.....	$\frac{1}{2}$ to 1 part
Biborate of soda.....	20 parts
Citric acid.....	12 $\frac{1}{2}$ parts
Oil of lemon.....	1 $\frac{1}{2}$ parts
Oil of mint.....	1 $\frac{1}{2}$ part M.

Each pastille should weigh 30 grs., and contain gr. $\frac{1}{3}$ boric acid, and gr. $\frac{1}{30}$ each of benzoate of soda and of oil of thyme. Glycerine, water, gum and sugar are used as a basis and solvent, and gelatine is used to give the mass consistence.—*Wiener Med. Presse*, No. 42, 1888.

Butyl-chloral in Trigeminal Neuralgia.—There are but few drugs that have an action only on the region of a nerve. One of these, says O. LIEBREICH, is butylchloral, which in doses of from 1 to 2 or 3 grams causes, when taken internally, anæsthesia in the course of the trigeminal nerve. Its action in tic douloureux is not lasting, but in rheumatic pains of the face, pains due to trauma, toothache caused by pulpitis or periostitis, butylchloral acts in a satisfac-

tory manner. The taste of the drug is unpleasant, and it is but slightly soluble. The following is a useful formula:

Butylchloral....	grams 2, 3, or 5
Spts. vini rectific..	“ 10
Glycerine.....	“ 20
Aq. destill.....	120

Take 3 or 4 dessertspoonfuls.

The quantity to be taken depends on the intensity of the pains and on the patient.—*Internat. Klin. Rundschau*, Dec. 16, 1888.

Treatment of Eczema.—KAPOSI recommends the following formula as an application for eczema:

Naphthol.....	5 grams
Black soap.....	50 grams
Powdered chalk.....	10 grams
Prepared lard.....	100 grams

The parasites are immediately destroyed by this ointment. Different forms of eruptions, especially scabby eczema, are rapidly cured. This ointment should be rubbed in twice daily. It is free from odor, and does not stain linen.

Injections of Ox-Gall in Hydatids.—JUAN MERCANT reports a case of hydatids of the thigh, from which acephalocysts were discharged by irrigation with a 6 per cent. boric acid solution and injections of ox-gall mixed with an equal quantity of lukewarm water. Three injections were sufficient to expel all the hydatids with their membranous envelopes.—*Medical Chronicle*, Nov., 1888.

Camphor and Ammonium Salts as Stimulants.—From some experiments BRIZ concludes that camphor is a good stimulant to the respiratory function when failure is threatened, as in opium poisoning. Chloride of ammonium is a stimulant to the nervous system, respiration and blood-pressure being increased by a fifth or a quarter in a few minutes.—*Deutsche Med. Wochenschrift*, November 8, 1888.

What Medicines may be given to Nursing Mothers?—FEHLING has opened an important field of inquiry by a series of experiments to determine what drugs may be safely given to nursing mothers. He found that salicylate of sodium was dangerous to the infant when given to the nurse in doses as large as gr. 45 daily. Iodide of potassium may be given in doses of gr. 3 daily.

Iodoform enters the system of the infant more readily through the nurse than when given to the child. Even when the wounds of the mother were dressed with iodoform, iodine was found in the child's urine.

Fehling found that mercurial salts given to the mother affect the child very slightly if at all.

It was found that 25 drops of tincture of opium (German Pharmac.) and gr. $\frac{1}{10}$ to $\frac{3}{10}$ of morphine could be safely given to the mother.

Chloral may be given in doses of gr. 23 to 45. Atropine affects the child very quickly, even in small doses.

Fehling denies that salads and acids have an injurious effect on the child.

Glycerine in Constipation.—In a recent number of the *Hospital Gazette* Dr. JAMES D. STAPLE says he has given glycerine injections more than a hundred times, the quantity injected being ℥j for children, and ℥ij for adults. As a rule the bowels acted within fifteen minutes, but in some cases half an hour elapsed, and in two cases the injections had to be repeated. The absence of pain, and the ease with which the enemata may be given, the rapidity of their action, and the absence of any griping, give glycerine enemata a distinct advantage over aperient medicines administered by the mouth.

Glycerine acts equally well, though not so rapidly when given by the mouth, in teaspoonful doses, about every half hour. The effects are particularly good in cases in which the colon is impacted with hardened feces, the glycerine lubricating

the masses so that they are evacuated without pain. Equal quantities of glycerine and castor oil, in teaspoonful doses, also act well.

Treatment of Puerperal Septicæmia.—RUNGE (*Archiv für Gynäkologie*, Band 33, Heft 1) has continued to employ his method of treating puerperal septicæmia by the free use of alcoholics, forced feeding, tepid baths, and the omission of antipyretic drugs. His cases amounted to 20, with 15 recoveries: of the 5 fatal cases 4 died from vomiting, which could not be controlled. Runge observed that the use of the bath was followed by a gain in appetite and often by a period of sleep. The alcoholics given were heavy wines and cognac, one patient averaging half a bottle of port and five ounces of cognac daily for twelve days. Symptoms of intoxication rarely appeared, and were considered favorable signs, as indicating a lessening of the activity of the septic process. Hyperpyrexia was treated by baths and alcoholics daily.—*American Journ. Med. Sc.*, January, 1889.

Morphine in Puerperal Eclampsia.—VEIT, after having used other methods of treating puerperal eclampsia, now relies on morphine, hypodermically, in large doses. The first dose is usually gr. $\frac{3}{4}$, followed by half as much when required. It is generally necessary to give from gr. $1\frac{1}{2}$ to 3 in from 4 to 7 hours—the drug being pushed to the production of narcosis. For the renal complications of eclampsia hot baths are best, followed by packs. Pilocarpine may induce pulmonary cedema.—*Sammlung Klin. Vorträge*, No. 304.

A Simple Expectorant Mixture.

Terpine.....10 grams

Glycerine.....60 grams

Dissolve by gentle heat. The dose is regulated by the amount of terpine the physician wishes to give. It may be given in any syrup.

EDITORIAL.

PHARMACOLOGY AND THERAPEUTICS IN 1888.

One of the best methods of self-instruction is to look back over a certain portion of the field covered by our work, and review what has been done, and see what mistakes have been corrected, what ideas shown to be true or false, and what real progress made. While the actual work in pharmacology and therapeutics in 1888 covered but comparatively few subjects, much progress was made, and a very large number of papers was published. The majority of these were not of great interest or value; but one that is at all conversant with medical literature knows that the chaff is always far in excess of the wheat. The chief work done in pharmacology during 1888 was in the field of organic compounds—a field that now seems to promise more than any other. The antiseptics and antipyretics belonging to the aromatic series have had a large share of attention, and the new hypnotics, belonging to the alcoholic series, have been investigated. Therapeutics proper has had less attention, is unfortunately still widely separated from pharmacology, and is largely empirical.

One of the few bodies belonging to the organic series of compounds recently introduced into therapeutics which has not only held its place but has gone on increasing in usefulness is antipyrin. In the early part of 1888 Savadovski published an exhaustive paper on this drug, the result of a series of experiments conducted under the direction of Professor Botkin. He investigated the action of the drug on the circulation, respiration, digestion, and the nervous system; on the nitrogenous change; on temperature, and on decomposition and fermentation. The acceleration of the pulse was found to be due to excitation of the excito-motor ganglia of the heart as it occurs after division of the vagus nerves

and of the spinal cord. The blood-pressure was raised by the increased cardiac activity, and not by the effect on the peripheral arteries: in fact, the passage of blood or serum containing a certain amount of antipyrin through living vessels caused dilatation of the vessels. In regard to the influence of the drug on the chemical changes in the blood, it was found that oxyhæmoglobin solution mixed with 5 per centum of antipyrin remained unchanged for twelve hours. But in blood 2 per centum of antipyrin caused destruction of the red corpuscles in two or three hours, while 3 to 5 per centum causes a laky condition of the blood in from one and a half to two hours. Antipyrin does not affect the oxygen change in the blood. Savadovski found that antipyrin has no effect on the nitrogenous change in afebrile conditions, but that it produces an increased nitrogenous excretion in febrile dogs.

Lépine and Porteret have investigated the effect of antipyrin on the amount of glycogen in the body. Experiments on guinea-pigs showed after large doses of antipyrin the liver contained one-fifth more glycogen per kilogram than in a similar series of animals not treated with antipyrin, and that the amount of sugar in the first series was also proportionately less. Since the same results were obtained with antifebrin, quinine, and sodium salicylate, they conclude that antipyretics appear to completely stop or to hinder the change of glycogen into sugar in the liver. It is to be remarked that the doses given to the animals were much larger proportionately than those given to man; but it is possible that repeated doses in man may produce the same effects as a single large dose in a guinea-pig. Savadovski found that 2 per centum antipyrin inhibits putrefactive decomposition, but it requires a 4 or 5 per centum solution for complete inhibition. In therapeutic doses the drug has no effect on the secretion of gastric juice, nor on stomach digestion. The drug acts as a

sedative on the nervous system, but large doses produce convulsions. He could detect no effect on the sensory or motor nerves; but Blumenau has shown that tactile sensibility is greatly increased by the local action of the drug, while the sense of pain is diminished; and this has been found to be true clinically. In Savadovski's opinion the vomiting caused by antipyrin is of central origin.

While Maragliano and Bettelheim state that the fall of internal temperature goes *pari passu* with the rise of the skin-temperature, which is due to dilatation of the cutaneous vessels, according to Savadovski the fall of internal temperature may occur without dilatation of the skin vessels. In regard to the action of the drug on the heat-centers of the brain, the conclusion reached was that antipyrin acts as an antipyretic first by increasing the loss of heat and acting on the vasomotive thermic center, which lies in the front part of the corpus striatum; and that it acts also on the trophic center in the posterior part of the corpus striatum.

On account of its action on the nervous system antipyrin has been used in many nervous diseases. Germain Sée has recommended it hypodermically for pain, and his results have been more or less confirmed by other observers. Sée has had good results also from its use hypodermically in rheumatism, in the pains of chronic gout and rheumatism, and in those of locomotor ataxia. The drug is now a recognized remedy in many forms of functional headache and neuralgia. It has been used in chorea with success, in cases of epilepsy in which the convulsions were associated with menstruation, and in migraine following epilepsy. Sonnenberger and Griffith have obtained good results from its use in pertussis; it should be given in the early stages of the disease. A case of diabetes insipidus has been reported in which the drug was of great service, reducing the amount of urine from six or ten

to two litres a day. The dangers and drawbacks of the drug have been dwelt upon at such length in recent literature that they need not be mentioned here.

Salicylic acid has received a good deal of attention in the last year. Huber has shown that it is one of the safest and most important diuretics that we have; the experiments and results of Haig were mentioned at length in the January number of THE JOURNAL AND EXAMINER. The greatest increase in the amount of urine occurs in rheumatic fever and serous pleurisy, whether the temperature be raised or not. The value of Ehring's salicylate of bismuth has been mentioned in a recent number of THE JOURNAL AND EXAMINER. It is to be recommended in disorders of the stomach and intestines in children, and should be given with glycerine and water in a 5 per centum mixture. It should not be given in powder.

Förster, in investigating the effect of alcohol in fasting men on the excretion of phosphoric acid by the urine (absolute alcohol, of 30 to 50 per centum strength), found that the amount of phosphoric acid excreted was greater after alcohol, and was the greater the more pronounced were the symptoms produced by the alcohol. He thinks that these results hold good for the sick as well as for the healthy.

The action of chloroform as an antiseptic had been investigated by Salkovski. He found that 5 cc. dissolve completely in one litre of water at the temperature of the room, and that this solution is antiseptic and disinfectant, preventing the growth of bacteria. It will keep milk for months, and urine and pathological effusions for a long time. It has no action on organic ferments, such as those of digestion; but it kills the bacillus of anthrax in an hour and a half, though the spores are not affected; it kills cholera bacilli in one minute.

Aldehyde has been investigated by Albertoni and Pisenti. In the vessels of the different organs it produces a condition

of arterio-sclerosis, and various degrees of fibrosis are produced, and an interstitial growth of fibrous tissue in the liver, with an infiltration of round cells, which is a true commencing cirrhosis. The mucous membrane of the stomach is but slightly affected, and the kidneys sometimes slightly, sometimes greatly affected, the glomeruli being filled with blood.

In a series of investigations Mosso has filled many gaps in our former knowledge of the action of cocaine, but his results have been already extensively published. He recommends cocaine as one of the best stimulants both in ordinary conditions and in narcosis from poisons. It is antagonistic to chloral hydrate, though it has no effect on the fall of temperature produced by chloral. It is also an antagonist to ether and chloroform, and these may be inhaled in acute cocaine poisoning to prevent tetanus of the respiratory muscles; when the first danger is over, chloral should be given. Artificial respiration should be performed if the breathing stop entirely. Nitrite of amyl is not antagonistic to cocaine, as has been asserted.

Methylal has been used as an hypnotic in various diseases. It produces sleep in chronic excitable conditions, senile dementia, and progressive paralysis, but it is useless in mental excitement due to alcohol, and in recent mental disease. It has no hypnotic effect when given subcutaneously.

Fröhner has shown that the prolonged use of paraldehyde produces effects similar to those of alcohol; it may produce methæmoglobinæmia, methæmoglobinuria, and albuminuria.

Amylene hydrate, which has been recommended as an hypnotic, produces sleep in nervousness, excitability, paralysis, delirium tremens, senile decay, convalescence, anæmia, phthisis, and in febrile patients. It is of no use in insomnia due to pain. The drug stands between chloral and paraldehyde, fifteen grains of chloral being equal to

thirty of amylene hydrate, or forty-five of paraldehyde. It has proved useful in chronic alcoholism, and in morphinism and encephalomalacia.

Cramer has found sulfonal useful in a large percentage of insane patients. Others have found it useful as an hypnotic.

Rosenbach has recommended ergot in the treatment of cardiac disease, with the view of increasing the activity of the walls of the blood-vessels, and of augmenting the pressure in the arterial system. It is useful in aortic regurgitation, in "idiopathic" dilatation, and in cases of arterio-sclerosis. It regulates the pulse, diminishes dyspnoea and palpitation, but has no effect on the œdema. It may be given in small doses every two or three hours.

Haslund has published some interesting results on the treatment of psoriasis with large doses of iodide of potassium. He prescribes at first a 5 per centum solution, half an ounce being taken four times a day. In two days another half an ounce is added to the dose, until the patient is taking six ounces daily. The strength is now increased to 6 per centum, thirty grains being added to the daily dose. Small children begin with a 2.5 per centum solution, and advance to the minimum dose for the adult. When the patient reaches the dose of ten drachms daily the effects must be watched with care. Of the fifty cases treated, forty were completely cured, four were improved, and in six there was no result. The duration of treatment was between two and a half and fifteen weeks, and the dose used during the course of treatment was between 40 and 280 drachms. The large doses were well borne, and there was but little iodism. The patients increased in weight during the treatment. It was noticed that the pulse was greatly increased in frequency, up to 100, 130, and even 140. The number and size of the blood-corpuscles was unaffected, and there was no diminution of the amount of fat, no atrophy of glands.

BAD WATER, FILTH, AND TYPHOID FEVER.

Lakeview, a suburb of Chicago, has had a very large number of cases of typhoid fever during the past few weeks, and at present it is said that there is an epidemic of the disease in the town. Unfortunately for those that wish to get at the facts, local politics seems to figure very prominently in the matter, one side suppressing or ignoring the facts, while the other side appears to exaggerate them. A sifting of all the evidence, however, shows that the water supply of Lakeview is bad; that the town is in a deplorable sanitary condition, that a very large number of cases of typhoid fever exist in the town, and that the mortality has been large. In 1888 the number of deaths from typhoid fever in Lakeview was 18, the number in January, 1889, was 23, in a population estimated at 50,000. To put the matter in dollars, typhoid fever cost Lakeview in 1888, in deaths alone \$14,310, while in the last month alone it cost the town \$18,285. This is exclusive of the cost of cases of illness.

A careful review of such facts as can be had seems to show that bad water and the filthy condition of the town are the causes of the outbreak of typhoid fever in Lakeview, and makes it probable that the health authorities of the town are not blameless. The whole number of cases of the disease reported in January was 97; with 23 fatal cases, the death-rate was a little more than 23 per centum, showing that the disease was of unusual virulence.

In regard to the water-supply of Lakeview, during the latter part of December the inlet-pipes from Lake Michigan became clogged with ice. These pipes are laid 2,000 and 2,200 feet out into the lake. The water engineer, instead of having this ice removed, began to pump in water from the shore inlet, within the breakwater and only a short distance from the shore—about 150 feet. This was done for about a

month, and during that time the inhabitants of Lakeview have been using water contaminated by sewage. Added to this, if anything need be added, the alleys and streets of Lakeview are, and they have been for several months, in a filthy condition. There is the possibility, also, that, in the absence of adequate inspection of milk, at least some of the milk used by the people of Lakeview has been diluted by this same impure water. The inadequacy of the Lakeview water-pipes to the purpose for which they were laid is shown by the fact that this, one of the warmest winters on record at this place, has sufficed to clog the pipes with ice. Perhaps with less of politics and jobbery in municipal offices the health of some of our cities might be improved.

CANCER BY SKIN-GRAFTS.

In a recent number of the *Centralblatt für Chirurgie* HAHN reports a case of great pathological and therapeutical interest in which carcinomatous nodules were transplanted from one breast to the other. In this case the breast had been previously amputated for carcinoma, and was too far advanced to allow a second operation. Hahn obtained the patient's consent to ascertain if it were possible to inoculate the skin over the second breast with pieces taken from the skin of the affected mamma. Numerous small carcinomatous nodules were cut off as evenly as possible with grafting scissors, and transplanted by Reverdin's method to the sound mamma, the skin over the affected part having been removed so as to leave an open wound. The grafts took firm root by the 21st day, and the wound was completely covered by epidermis. On the 40th day some small projecting nodules, about the size of a millet seed, appeared at the edge of the pieces of skin, and gradually increased in size until by the 78th day they were as large as cherry stones. The patient died on the 82nd day. Microscopic examination of

sections of the transplanted skin showed that the main mass of the tumors consisted of a well-developed connective-tissue stroma containing irregular masses of epithelial cells. These masses had insinuated themselves into the healthy tissues, which were beginning to be invaded by epithelial nests on all sides. From this case we may draw the practical deductions that carcinoma is inoculable upon healthy tissues, and that during an operation great care should be exercised to avoid taking up particles of cancerous tissue in the forceps, and leaving them adherent to the wound, where they may find a resting place and grow.

THE APEX-BEAT IN CHILDREN.

W. VON STARCK has recently made a series of elaborate investigations in regard to the situation of the apex-beat in children, his conclusions being published in *Centralblatt für Klinische Medizin*, No. 34, 1888. They are as follows: 1. During the first year of life the situation of the apex-beat is frequently indeterminable. 2. Up to the fourth year it lies without the nipple line in most children; less and less frequently during the following years; and practically never after the thirteenth year. 3. It is seldom found in the mammary line in the first year; more and more frequently so until the seventh year; less often after that time; but again there at fourteen years. 4. It is never within the mammary line before the second year, and seldom before the seventh; from nine up in most cases; and almost always from thirteen up. 5. It lies in the 4th interspace almost always in the first year; less and less often there afterwards. 6. It is in the 4th and 5th interspaces seldom during the first two years; often from the third to the sixth; less often afterwards. 7. It is very seldom in the 5th interspace in the first two years; more often in the next years; from seven up in most subjects, and almost always there after thirteen years. 8. It is very

seldom found in the 6th interspace in children.

A DECISION ON MEDICAL PRACTICE ACTS.

The Supreme Court of the United States has recently delivered, through Mr. Justice Field, an important decision in regard to the validity of statutes regulating the practice of medicine. The decision was rendered in a case appealed from the Supreme Court of West Virginia, an irregular practitioner having been prosecuted in that State without a diploma or a certificate from the Board of Examiners, at the same time not being exempt under the ten years' clause of the West Virginia Act.

The case involved the validity of the Act, and the United States Supreme Court decided as follows: "The power of the State to provide for the general welfare of its people authorizes it to prescribe all such regulations as may be necessary to secure the people against the consequences of ignorance and incapacity as well as of deception and fraud. One means to secure this end is the method adopted by the State of West Virginia. If the means adopted are appropriate to the calling or profession, and obtainable by reasonable study or application, no objection to their validity can be raised."

CLINICAL REPORTS.

SURGICAL CLINIC, COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO.

REPORTED BY H. S. WARREN, M.D.

CASE I.—CARCINOMA OF THE CERVICAL REGION; OPERATION; TWO SECONDARY HÆMORRHAGES; RECOVERY.

Lawson Clay, aged 23; single; family history, good. Previous history, never sick. Present condition.—About one year ago a tumor was noticed, beginning a little below and behind the right ear, at the posterior border of the sterno-mastoid muscle. At first it seemed to be as large as a hen's egg,

but during the last six months it has grown more rapidly than before. The present extent of the tumor is from the mastoid process downward about three inches; laterally about two inches. At first it was quite movable, but now is only slightly movable laterally, it being impossible to move it vertically. It is about as hard as cartilage and apparently consists of one large and two smaller tumors. There is nothing to be felt inside the mouth. Patient has lost about 25 pounds in weight during the last year.

Operation by Professor Fenger, assisted by Dr. Davis, Dr. Pearce and Dr. Warren, at the College of Physicians and Surgeons, Nov. 9, 1888. First an incision was made posterior to the sterno-mastoid muscle, extending from the mastoid process to the sterno-clavicular articulation. The tumor was dissected out from below upwards, and was found intimately connected with the sterno-mastoid muscle, and in one place attached to the common carotid artery. In dissecting the tumor out, commencing from below and working upward, first the internal jugular vein was found running directly through the tumor. This, with the facial vein, was ligated at the lower border of the tumor; then, in dissecting up, the common carotid was found attached to the tumor. The attachments of the carotid were severed without injury to the artery.

Going still farther with the removal of the tumor, it was found to extend into the jugular fossa, necessitating the division of the internal jugular again, this time in the fossa, but it was found impossible to ligate it owing to the extent of growth of the carcinomatous mass in the fossa; an artery forceps was attached to the vein to be left till a provisional closure of the vessel had occurred. The jugular was divided and the tumor removed.

The wound was now dressed antiseptically. First iodoform gauze was packed around the artery forceps, the wound

sutured and an antiseptic dressing applied. After 48 hours there was slight elevation of temperature, but the patient was doing well. Seventy-two hours after the operation the wound was dressed by Dr. Warren. There was a slight serous discharge on the dressings, but the wound looked very well. There seemed to be no sepsis.

Four days after the operation *secondary hæmorrhage occurred*. The dressings were first noticed to be slightly colored with blood. The patient was watched closely, and it was noticed that there was oozing of blood from some point. Professor Fenger was called and opened the wound, exposing the carotid artery. Blood was slowly coming through the walls of the external carotid artery near the bifurcation with the internal carotid, necessitating ligation and division of the common carotid, and of the external carotid above its perforation.

The artery forceps left in the jugular fossa at the time of the operation, were now removed, and the wound sutured and dressed.

The patient did very well until November 23, ten days after the second operation, and the removal of the artery forceps, when a *second secondary hæmorrhage* occurred. On this day the patient became suddenly very weak, and called for help. Dr. Warren was near and noticed profuse hæmorrhage coming through the dressings. He at once made firm pressure on the dressing above and below, and the hæmorrhage ceased. Then the dressing was removed. The hæmorrhage this time came from the jugular vein in the jugular fossa, due to separation of the blood clot that was formed by the aid of the artery forceps. A fine compress of iodoform gauze was put over and near the fossa, bound tightly with a roller bandage. The wound was now dressed, and the patient closely watched, but he continued to improve after this, until now, January 14, 1889, he is perfectly well.

The loss of blood at each secondary

hæmorrhage was about four ounces. There were at no time any bad symptoms from the ligation of the blood-vessels on that side of the neck.

CASE II.—EXCISION OF THE HEAD OF THE HUMERUS FOR OLD DISLOCATION.

Geo. McMurry, aged 56.

Diagnosis.—Old dislocation of the humerus at the shoulder joint. Family history good. Present condition.—About nine months before coming to the College, the patient fell from a wagon, striking the tongue of it with his right shoulder, causing a downward and forward dislocation of the shoulder-joint. A few minutes after the injury paralysis of the motor nerves of arm occurred with sensory paralysis on the extensor surface of arm. No attempt was made at reduction until he came to the College, as there was no physician within 40 miles of his home.

Examination.—The shoulder showed a disappearance of the humeral prominence, and a marked depression anterior and exterior to the coracoid process. There was inability to rotate the arm, loss of motion, and semi-flexion of the digits due to paresis.

Operation.—By Prof. Fenger and assistants. The patient was anesthetized and an attempt made at reduction, but this was found impossible, owing to adhesions. An incision was now made through integument covering the coracoid process and glenoid cavity. Hæmorrhage was controlled, and the muscles were operated until the osseous structures were reached. An attempt was made to limit the operation to the outside of the long head of the biceps tendon, but was unsuccessful owing to anatomical difficulties. On opening the capsule the glenoid cavity was found filled with newly formed connective tissue which was removed. The coracoid process was then broken to give space for the reduction. The head of the humerus was found diseased, making removal necessary a little below the anatomi-

cal neck. The end of the humerus was then inserted into glenoid cavity and a drainage tube inserted. The wound was now closed with silk sutures. An antiseptic dressing was put on with a plaster cast covering the shoulder and chest. The patient at no time after the operation developed much temperature. There was no sepsis, and the patient improved rapidly. The result was good, there being primary union of the wound.

The paralysis disappeared. The function of the joint was restored, and the patient went home with a fairly useful arm.

CLINICAL NOTES FROM COOK COUNTY HOSPITAL.

I. SECONDARY EPITHELIOMA OF CERVICAL LYMPH GLANDS; RESECTION OF LOWER JAW.

John K—, white, aged 49 years, married, was admitted on November 16th. His past history reveals nothing that has any bearing on present complaint. His father died from sunstroke, his mother from old age.

His present trouble dates back three months, when he first noticed a small lump on the right side of the neck, just anterior and internal to the angle of the jaw. It was about as large as a hazel nut, movable, painless, and of moderately firm consistence. From that time it has gradually increased in size, but has never pained him until two weeks ago. Since then the pain has been constant, with exacerbations lancinating in character. There has been no constitutional disturbance since the advent of the growth. Appetite is good; throat has not been sore; no interference with respiration or deglutition, and patient has worked up to date.

Upon examining the tumor it was found to be about the size of a goose egg, situated over the body of the inferior maxillary and submaxillary region of the right side, quite firmly adherent to the bone. The most dependent part was semi-fluctuating, the rest rather firm. The skin over tumor was red, and seemed to be closely attached to

it. On the left side of the neck there were three or four enlarged glands. The supra-clavicular and deep cervical glands were apparently not enlarged. There was also on the lower lip a small ulcer, similar to a "cold-sore," which the patient claimed had only been there a week or two, but which was evidently the primary epithelioma.

Operation (Nov. 22). An elliptical incision was made, and the tumor was rapidly loosened from its attachments to the neck by a scalpel-handle. The hæmorrhage was profuse, requiring several ligatures. The connection to the lower jaw was found to be so intimate that a resection was decided upon. Accordingly a central incisor was extracted, and a chain saw passed in the median line *beneath* the mucous membrane (thus preventing any blood being swallowed), the bone sawn through, and again just in front of the coronoid process. After a few cuts with scissors the tumor and resected bone were detached. A blind rubber tube was inserted, and the wound closed by deep and superficial sutures.

Nov. 23. Temperature 99° F. There had been considerable oozing, so the dressing was changed.

Nov. 29. Deep sutures loosened.

Nov. 30. All sutures removed. Owing to large loss of tissue the wound had to heal by granulation. But a return of the disease occurred at the site of operation, and the patient left on December 31st, unimproved.

II. CHRONIC SYNOVITIS; AMPUTATION; DEATH FROM MULTIPLE SECONDARY HÆMORRHAGES.

Thomas K—, white; aged 44 years; single; was admitted December 10th, 1887. His family history was obscure, but his previous health had been good, with the exception of trichiniasis some nineteen years previous in Germany.

His occupation for many years was that of a laborer in a packing-house, where the floors were constantly wet and the air warm

and moist. In 1885 he noticed that it pained him to flex his knees. In a month the pain had increased so that he was obliged to quit work, and the affection grew steadily worse. On admission he could walk a block at a time, but had to go very slowly. In going upstairs he had to step up with the left leg and draw the right one after. Though both knees were affected simultaneously, the right knee had always occasioned the most discomfort. Has decreased in weight 60 pounds since advent of disease. His sleep was disturbed by sudden jerks of the muscles of the leg, causing great pain. Any movement of the knees pained him, and rest in any one position was unbearable for more than half an hour.

On examination the right leg was found flexed on the thigh, and the knee-joint symmetrically swollen. The part over the femur was puffy, and did not pit or fluctuate. Lower down was harder, and small loose bodies could be felt, slipping under the finger. The leg could be extended to nearly the full distance, and there was no creaking on moving it. No pulsation or bruit could be detected. The left knee was similarly affected, but the swelling was smaller, and a grating sensation was plainly felt on moving the leg.

Various local applications were used with no appreciable effect, and on December 16, extension with one brick was tried, and kept up till the 28th, with a similar result.

On December 28, excision of the left knee was decided on. The usual incision was made, and the joint-cavity exposed, when the synovial membrane, except that covering the trochlear surface of the femur, was found studded with small polypi or granulations. Clots of blood in various stages of disorganization extended some four inches up the thigh under the quadriceps. The cartilages were eroded. Owing to the latter features an amputation seemed to promise better results; a circular ampu-

tation was made in the lower third of the thigh. On cutting through the muscles they were found thickly studded with small yellow bodies, which on microscopical examination proved to be encapsulated trichinæ completely calcified. The arteries were all atheromatous, and considerable difficulty was experienced in ligating the larger vessels. The femoral artery and vein were tied in two places with juniper catgut.

December 29. Temperature 99.5° F. Hæmorrhage was so profuse that dressing had to be taken off and the clots turned out. The patient was stimulated constantly, but on January 4, a large amount of clotted blood had to be taken out again, the hæmorrhage checked with hot water, the wound packed with iodoform gauze, and dressed open.

January 12. Another hæmorrhage occurred, from which the patient never rallied, and died that night.

SOCIETY REPORTS.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, February 4.

THE PRESIDENT IN THE CHAIR.

PROFESSOR J. S. KNOX read a paper on
ETIOLOGY OF PUERPERAL FEVER,

in which he stated that up to 1846 our ideas as to the ætiology of puerperal fever were confused and conflicting. In 1847 Semmelweiss declared septic infection to be the cause of the disease. In 1863 Pasteur published his researches on fermentation and putrid infection. In 1866 Lister formulated his methods of antiseptic surgery, and in 1870 Stedfeld first practiced, and reported his results in, strict antiseptic midwifery. In 1846 the mortality in the maternities of Europe among lying-in women was 8 to 11 per centum. In 1883, out of 785 cases of labor there was not a single death from puerperal fever in Tar-

nier's Pavilion. Look at these facts as we may, and the subsequent study of them, and we can reach but one conclusion, and that is that the cause of the disease is sepsis, probably due to entrance of microbes. It is not autogenetic. Where absolute and perfect asepsis has been secured, there is not the slightest indication of puerperal fever among lying-in women. It is sometimes almost impossible to elude the subtle entrance of the microbes of sepsis, hence puerperal fever may follow as a consequence, but epidemics of the disease are entirely a thing of the past. There is no such thing to-day—where strictly antiseptic midwifery is practiced—as an epidemic of the disease. It is true, a few sporadic cases are arising here and there, but these are due to careless and improper methods of treatment.

Dr. J. C. Hoag read a paper on the *Pathology of Puerperal Fever*; Professor F. S. Johnson on the *Relation of Bacteria to Puerperal Fever*; Dr. H. P. Neuman on the *Symptoms and Diagnosis of Puerperal Fever*, and Professor W. W. Jaggard on the *Prevention of Puerperal Fever*.

"The Treatment of Puerperal Fever" was the title of a paper by Professor Charles W. Earle, which appears elsewhere in this number of THE JOURNAL AND EXAMINER.

PROFESSOR R. N. ISHAM, in opening the discussion, said he could add but little to what had already been said. The essayists had dealt with the subject exhaustively. He was one of the few, however, that took a retrospective view of the subject. The question of the contagiousness of puerperal fever had arisen, and was denied by eminent authorities. In the light of modern pathology there was no such thing as an epidemic of puerperal fever, although there are at the present day some who entertain its existence *sui generis*. It is essentially a surgical condition, which is expressed in the words septicæmia, pyæmia, or mixed

infection. The question that has arisen with reference to the matter of contagion—how far the individual practitioner is responsible for these conditions—has been ably expressed in the paper read by Professor Jaggard. The element of infection might be summed up in the axiom, *that the parturient woman is a wounded woman*, and that her condition is much like that of a person with a wound in surgical practice. The treatment is essentially the same as in other infected wounds encountered in surgical practice. A patient with puerperal fever should be regarded as other subjects of septicæmia, pyæmia, or the mixed infectious conditions. Hasty, impulsive action on part of the obstetrician in the removal of the placenta in order to get away from his case should be condemned, hence the so-called Credé's method is a great step in preventing the introduction of the hand into the uterus or uterine cavity, and the admission of air as a source of infection. In ordinary cases the parturient woman does better without an obstetrician than with him. It is the meddlesome interference in the removal of the placenta that is sometimes the cause of so many deaths.

PROFESSOR CHARLES T. PARKES expressed himself as being in harmony with all the methods of treatment advocated by the essayists, and believed that if the plans outlined in the papers were adopted, thoroughly and conscientiously carried out, no matter what the surroundings or condition of the patient may be, cases of puerperal fever would seldom be seen. He would indorse the surgical interference referred to by Professor Earle, but could not agree with him in the matter of interfering with the inside of the uterus, for that should be let alone, unless there were positive reasons *why* it should be interfered with. In the manifestations or sequelæ of the disease, such as decomposing fluids in the peritoneal cavity, and the presence of localized spots of suppuration, the abdominal cavity should be opened in order to get rid of the

source of trouble which is causing the oncoming fatal result.

PROFESSOR D. T. NELSON said there was one drug which had not been mentioned—not believing that drugs were so over-valuable,—but it seemed to him in some of the dreadful cases of puerperal fever, when the obstetrician has nothing but drugs to rely on, among others *pitocarpine* might be used with a view to urging the skin to act in the right direction, and which had given him considerable satisfaction along with other treatment. It is not to be used alone, nor to the exclusion of the drugs that had been mentioned by Professor Earle. With reference to saline cathartics, it had been demonstrated that when salines were freely used and abundant catharsis resulted, the patient was greatly benefited, providing there was nothing in the interior of the uterus.

He had used sulphuretted hydrogen in a few instances, but not in enough of them to enable him to speak authoritatively. Knowing that it had been used in tubercular diseases, and had become more or less popular, he thought it would be of some advantage in puerperal septicæmia among other drugs that might be used. He had seen three fatal cases in consultation within the last ten days, and believed all of them were infected by midwives. How could this be prevented? The society should formulate some plan whereby all midwives should be instructed so as not to infect patients, and then compel them to follow such instructions.

DR. J. C. HOAG referred to the lateral position in labor. It seemed to him as a distinctly prophylactic measure, because it was in this position alone that an adequate view of the perineum could be had; and as a corollary of this, it certainly enabled one to judge as to when episiotomy should be performed.

PROFESSOR JAGGARD, in closing the discussion, said there was grave objection in all cases of septic poisoning to quinine,

antipyrin, and the salicylates. In the first place, they did but little, if any, good in influencing the septic process, and in the second place, they invariably, to a greater or less degree, depress the heart's action. The treatment of puerperal septicæmia—so far as conducted through the alimentary canal, resolves itself practically into *milk and whiskey*.

GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Regular Meeting, October 9, 1888.

THE PRESIDENT IN THE CHAIR.

DR. H. P. C. WILSON reported a case of

LAPAROTOMY FOR FIBRO-SARCOMA OF THE OVARY.

Mrs. J., aged 47. Mother of 5 children—youngest 15 years old. Had hard, lingering labors. No instrument used. During her last pregnancy, she fell 18 feet out of a window—head-foremost—with such force as to burst open her corsets, and yet she did not miscarry.

In September, 1887, she first noticed a lump in the lower abdomen, on the right side. In January, 1888, she had rapid abdominal enlargement and swelling in both lower limbs. The limbs were punctured with lancet; water ran out, and abdomen and limbs decreased in size. In July, 1888, she was tapped, and 5 gallons of fluid drawn off.

She was brought to me at the Union Protestant Infirmary the latter part of September, 1888.

On examination I found her abdomen greatly enlarged with peritonitic fluid, and also a hard tumor growing from the right ovary—larger than a child's head—and not connected with the uterus, but apparently floating free in the peritoneal fluid. Uterus in place, and measuring three inches. Heart sound, and all other organs acting well. Nothing to account for the dropsy, but the solid tumor of the ovary.

I diagnosed the tumor to be a fibro-sarcoma of the right ovary because we very rarely find such a dropsy associated with such an ovarian tumor, without the tumor being malignant.

At 2 P.M., with strict antiseptic precautions, I made an incision of 2 inches into the abdominal cavity, below the navel. The peritonitic fluid was discharged (about 5 gallons)* and the solid, gray, hard tumor presented at the opening. Two fingers introduced, found that it grew from the right ovary—free from attachments—except abdominal at one point. Much oozing of blood from abdominal incision, and although hæmostatic forceps were used in great number, yet the oozing was troublesome. Incision enlarged to 4 inches, but I was unable to get the tumor out till I had enlarged the opening from navel to pubis. Abdominal adhesions were then torn away, and as they bled freely, were gathered up and tied. The pedicle was transfixed and tied on either side, with silk; and one of the ligatures was brought entirely around the whole pedicle, and tied again, when the tumor was cut away. Abdominal cavity was thoroughly sponged and all bleeding checked. A drainage tube was inserted, and the abdominal opening closed with 12 silk sutures.

Wound dressed with iodoform and borated cotton-sponge over drainage tube, wrapped in rubber cloth and the whole covered with a loose flannel bandage.

She was put to bed—surrounded with bottles of hot water, and wrapped in blankets. Reaction came on slowly. No nausea. She returned in due time to perfect consciousness. Pulse very frequent and feeble.

September 4th.—Temperature 100. It rose once to 101½, but never above this; and was most of the time below 100. Pulse 130, small and feeble. Pulse continued to rise and temperature to fall, till her death on the third day. She slept several hours on 25 grs of deod. tinct. opium, during

first night—given by the rectum. This had to be repeated several times during the first 36 hours on account of pain, but always quieted.

She was given milk, brandy and hot water, and digitalis by the mouth, brandy and milk by the rectum, and quinine, hypodermically, but nothing seemed to bring on perfect reaction, and she died in 67 hours after the operation.

She evidently died of shock. I am at a loss to know why the shock was so great and uncontrollable. The malignancy of the tumor, and more or less poisoned condition of blood, must have had something to do with it—but how? The sudden removal of such an enormous distention of the abdomen, was also an important factor in the shock.

I am also at a loss to know why such a tumor, not pressing on any important organs or vessels, could have produced such a dropsy. Its malignant nature was the cause—but how?

I herewith submit the report of Professor Welch, of the Johns Hopkins Hospital on the character of the tumor:

My Dear Dr. Wilson: I send the report of my examination of the interesting tumor which you sent me recently. The tumor is unquestionably of ovarian origin and is, as you surmised, a fibro-sarcoma. The extensive death by necrosis of so large a part of the tumor is an interesting feature.

The specimen is a solid tumor, nearly spherical in shape, measuring 15 cm. in diameter.

The fimbriated extremity of the fallopian tube, to the extent of 6 cm., has been removed and is connected with the tumor by a part of the broad ligament (mesovarium) measuring 3 cm. in width.

The tumor is solid with the exception of two small cysts containing fluid blood contents, near the attachment of the mesovarium. There is separable peritoneal

covering of the tumor. Upon section the tumor presents an outer zone, varying from 3 to 5 cm. in thickness, of a grayish homogeneous appearance, and a central mass of an opaque yellowish-white appearance. This central mass is succulent, œdematous.

Upon microscopical examination the outer zone of the tumor is found to be composed of parallel bundles of connective tissue, which in places is replaced by closely packed fusiform cells. Toward the central mass of the tumor, the outer zone is infiltrated richly with round small cells, accumulated chiefly around small veins and capillaries. Many blood-vessels in this peripheral zone are the seat of an obliterating endarteritis.

The central yellowish-white, œdematous mass which makes up the greater bulk of the tumor is chiefly necrotic, as is shown by the absence of nuclear staining, although the tumor was received in good condition, and fresh pieces were at once hardened in strong alcohol. The contours of abundant round and fusiform cells, devoid of stained nuclei, can be seen on sections through this part of the tumor. The walls of blood-vessels are extensively calcified in this region. There are many large spherical, oval and irregular cells filled with coarse, fatty globules, resembling fatty granular cells. The connective tissue fibres are split up into fine, interlacing fibrillæ.

No epithelial lining can be found in the two small cysts mentioned above.

The tumor is evidently an ovarian tumor. It has not the relations to the fallopian tube of an intraligamentous new growth.

Its microscopical structure is that of a fibro-sarcoma. The central and greater part of the tumor has undergone coagulation-necrosis, and partial calcification, doubtless as the result of imperfect nutrition from disease of the blood-vessels.

Diagnosis.—Fibro-Sarcoma Ovarii.

DR. WM. P. CHUNN would prefer chloroform to ether when the patient was excitable

and where the operation promised to be short. So much less chloroform being necessary for anaesthesia than ether. It would seem better always to give four drachms of chloroform than a pint of ether. In regard to ascites, caused by solid tumors in the abdomen, at first sight, it seemed strange that a *small* solid growth would produce such an accumulation of fluid, while a much larger *cyst* may cause no secretion whatever. It may be explained in the following way. The solid tumors, being malignant, irritate the peritoneum which results in hypersecretion and consequently ascites.

DR. ROBERT T. WILSON: After the operation I was informed by the anaesthetist that less than two ounces of chloroform was used.

DR. L. E. NEALE thought that in addition to the effect of chloroform, hæmorrhage, etc., the sudden removal of intra-abdominal pressure consequent upon the rapid withdrawal of so large a quantity of ascitic fluid might have been a factor in the causation of heart failure, shock and death.

Time or duration of operation must have been another potent factor, for Dr. Wilson had omitted to explain why the removal of such a slightly adherent tumor had occupied one hour and a half.

In connection with this case he would state that although the presence of large or rapidly accumulating ascites with an abdominal tumor was usually regarded as an indication of malignancy of the tumor, on September 18th, 1886, he had removed three gallons of such fluid during an operation for the removal of the uterine appendages for interstitial uterine fibroid in a negress.

The result was successful, and while the tumor gradually wasted away, the fluid never returned.

Regular Meeting, November 13, 1888.

THE PRESIDENT, DR. OPIE, IN THE CHAIR.

DR. THOMAS OPIE reported

TWO OVARIOTOMIES WITH UNUSUAL COMPLICATIONS.

CASE 1.—Mrs. B., married at 25 years of age. Nine months afterwards, in March, 1883, I was called to see her when suffering from an acute retroflexion of the uterus at the middle of the third month of gestation. Manual efforts to replace the organ failed. A colpeurynter was introduced at 8 p.m. and on my visit the following morning, the uterus was replaced. At the expiration of seven months of pregnancy, she had a premature delivery. The child died in 24 hours. Conception occurred again in a year and she aborted at the end of the second month. Upon the recurrence of menstruation, she began to have trouble with the right ovary. At every ovulating period this ovary became swollen to the size apparently of a hen's egg. Later it suddenly disappeared and was followed by tenderness, nausea and vomiting. Her pulse was about 120 and temperature ranged from 102° to 103°. These symptoms, lasting for three or four days, were repeated at four or five successive ovulations. The case drifted away from me and returned in March, 1888. She said she first noticed an enlargement in the right side in October, 1885, which gradually grew until it filled the abdomen.

Ovariectomy was performed April 29th, 1888. When the peritoneum was opened, it was found to contain three gallons of ascitic fluid, a sample of which was taken for examination.

The patient took chloroform so badly, that ether was substituted. On the escape of the fluid, the respiration, which was so embarrassed that it threatened to debar the progress of the operation, grew fuller and slower, and the anaesthesia became entirely satisfactory. The sac was emptied and a sample of its contents secured. The

solid part of the tumor was large and the adhesions to the intestines very extensive. A segment of the sac—about six inches square—which could not be separated from the intestines without great risk, was left. The action on the part of the right ovary, prior to the development of the ovarian tumor, was peculiar. Either there was an abnormal maturation or rupture of an ovisac or a thin wall cyst acting as the dermoid cyst sometimes does, ruptured and induced a peritonitis monthly, at the time of ovarian activity. This was likely the beginning of the ascites and the Drysdale corpuscles in the peritoneal fluid may have been derived from this source.

I subjoin the microscopic examination of the contents of the peritoneal and sac cavities, as made by Dr. N. G. Keirle.

Pathological histology of the ovarian tumor removed by Dr. Opie.—This ovarian growth is an ovarian cystoma described by Rindfleisch ("Pathological Histology," vol. ii., p. 180. Syd. Soc. Ed.) as Form II. Single ovary usually affected, a few large cysts and numerous smaller ones; "the surface of the tumor is nearly always connected with the peritoneum by a large number of inflammatory adhesions traversed by veins of considerable size;" cyst walls thin and lacerable and contents mixed with blood and blood pigment; microscopically these cysts are lined with epithelium and traversed with bands of connective tissue and throughout the structure are numerous corpuscles described by Drysdale, which, perhaps, are the granular cells, normal in the inter-follicular stroma, as described by His in Stricker's Histology, vol. ii., p. 195. Syd. Soc. Ed.: This tumor is a cystoma due to colloid degeneration of the ovarian stroma; the cyst contents coagulate firmly, on addition of nitric acid, due, perhaps, to admixture of blood serum.

Ascitic fluid from same case contains numerous Drysdale corpuscles which may indicate that the abdominal dropsy supervened upon—was caused by escape of irri-

tant cyst contents: fluid firmly coagulates with nitric acid.

CASE II.—Mrs. C. was operated upon Nov. 4th, 1888, for the removal of an advanced cystomata. In July last she fell down a steep stairway and struck her abdomen against a chair. Acute peritonitis ensued from which she was critically ill. A considerable amount of solid elements was recognizable in the tumor in the right hypochondrium at the point where the blow was received.

The incision in this, as in the first case, was extended above the umbilicus and was seven inches long. It was made directly through the umbilicus, its length having been essential to the separation of the adhesions and the removal of the solid part of the tumor. Three-fourths of the sac wall was adherent to the structures around it. A section of it about six inches long and four wide, which could not be detached from the intestines, was trimmed closely and left *in situ*. Having staunched all hæmorrhage and cleansed the abdominal cavity, the whole surface of the peritoneum and the remaining part of the sac were insufflated with iodoform, selected with a view to its purity, dryness and thoroughness of levigation.

The peritoneum was evenly closed with fine Chinese silk by a continuous suture and the walls of the wound so secured by interrupted silver wire sutures a half inch apart, as to fit together in the successive layers, structures of the same kind.

In this, as in the other case, Keith's glass drainage tube was inserted, in view of the remaining segment of the cyst wall and the extensive peritoneal traumatism. The temperature rose to its highest, 102°, on the second day and the pulse ran up to 120. Vomiting and straining, abdominal tenderness and tympanites, pointed to peritonitis, which lasted for four days. The pulse continued above 100 for a week and was the last symptom of the group to abate. The incision healed in both cases

by first intention. There was no discharge, except a few drops of odorless, sanious serum to exude from the drain tubes. Both tubes were removed on the 10th day and iodoform blown on the margins of the opening. I have great confidence in the restraining influence of iodoform on the exudation of serum from the wounded peritoneal surfaces. It constricts the capillaries and dries thoroughly the whole serous investment of the abdomen, in most cases doing away with the necessity for drain tubes and foreclosing the fresh wounds from receiving germs of empoisonment. In these two operations the drainage tubes might well have been omitted. Greig Smith says, when in doubt, drain. Fewer cases have died from drainage than from the want of it. It seems likely, however, that drainage tubes will be less and less used, and will belong after a while, like the clamp, only to the history of ovariectomy.

DR. T. A. ASHBY then read a paper on

LAPAROTOMY FOR ASCITES.

The object of the paper was to demonstrate the value of an exploratory laparotomy as an aid to the diagnosis and treatment of ascites in those cases where the cause of this condition could not be referred to structural changes in well-known organs as the liver, kidneys, heart or spleen, or to inflammatory conditions, but was evidently dependent upon mechanical influences. Ascites could be referred to a large number of causative influences and its successful treatment depends largely upon an ability to ascertain and remove the cause. Its dependence upon intra-abdominal and intra-pelvic growths was well recognized and its disappearance after the removal of such growths was an established fact. While such growths often demanded removal for other symptoms than those referable to the ascites, this latter condition was a plain indication in certain cases. Where the diagnosis of the

cause of ascites could not be clearly established and the symptoms did not yield to the influence of drugs, exploratory laparotomy was advised as the most rational way of ascertaining the cause, and it afforded a remarkable hope of being able to remove the influence at work in the production of the effusion. Exploratory laparotomy, aseptically performed, was a safe procedure and should be undertaken when the indications clearly pointed to a mechanical cause of the ascites.

In confirmation of the value of laparotomy for this condition a case was related with the following brief history: A young lady, single, aged nineteen, began to suffer with menstrual disturbances in January, 1888. Her health became depreciated and about May 1st an abdominal enlargement was first noticed. On June 1st ascites was so pronounced and she became so distressed that paracentesis became necessary. Drugs previously administered had failed to reduce the effusion. Two gallons and a half of ascitic fluid were removed. The effusion immediately returned and by June 10th the abdomen was as large as prior to the operations. An exploratory laparotomy was now made and a wild tumor the size of a hen's egg was found in the pelvis behind the uterus. This was enucleated and removed. The effusion was referred to this cause: the tumor acting mechanically upon an important blood-vessel had occasioned the ascites. Recovery followed the laparotomy and up to the present date there has been no return of the ascites, though over five gallons had accumulated within thirty days prior to the removal of the tumor. The diagnosis of the tumor could not be made prior to the laparotomy. This discovery and removal of the cause by intra-abdominal exploration led to a recovery of the patient from the ascites. Drugs could have been of no curative value in this case, and paracentesis was only temporary and palliative in its aim. The procedure was advocated as rational in its

intent and possibly curative in its results in each condition of ascites of pronounced mechanical origin.

DR. OPIE thought that Dr. Ashby was to be congratulated on the success of his laparotomy. There is, however, a great danger in laparotomies that are merely exploratory. All such cases do not turn out so happily as this one. There is a fascination in the novelty of such procedures and a danger of being swerved by them from our conservatism in surgery. Had the tumor been larger or situated elsewhere than it was, either in the abdominal or pelvic cavities, it would likely have been found after tapping either by palpation or this mode of exploration combined with vaginal or rectal touch. The recent advance in the knowledge of palpation has added to the value of the trocar. Its use as an exploratory method should not be too much depreciated, since it is simple and much safer than laparotomy, and has its legitimate sphere in the management of cystomas. It occurs sometimes that the patient has some acute disease, and tapping might be resorted to, where the more heroic operations of laparotomy or ovariectomy would be contraindicated. Again, a patient with ascites or cystomata may be too anæmic or debilitated for operation, and we tap to obtain time for tonic treatment. A singular case came under his observation a few days since, which has some bearing upon the cases recently published of ovariectomy during pregnancy. It was a lady 34 years of age who had borne 5 children. After the birth of the first child a cystoma developed and was tapped; subsequently she bore to full term two children and was tapped the second time while pregnant with her third child. The third time she was tapped was during her fifth pregnancy. Since the last birth two years have elapsed and the abdomen is again as large as at the eighth month of pregnancy. The four children born since the first appearance of the cystoma were fully developed and

vigorous at birth, and three of them are still alive.

DR. ASHBY regretted having to call in question the opinion of Greig Smith, expressed by Dr. Opie, in regard to the value of hot water as a hæmostatic. It is well-known that hot water stimulates a temporary flow of blood to the capillaries and primarily increases hæmorrhage, but this effect is only transient and is now followed by a shrinkage of the vessels and a cessation of hæmorrhage. It therefore becomes a most reliable hæmostatic agent and perhaps the best at the surgeon's command in cases of capillary bleeding. In abdominal surgery, hot water is equally useful in relieving the depression following prolonged exposure of the viscera and as a cleansing agent. It is in the speaker's opinion the best hæmostatic he had ever employed in abdominal work where there was capillary bleeding.

He admitted the force of Dr. Opie's remarks in reference to the operation of paracentesis, but in the case related by him he believed the value of an exploratory incision was fully established. The opening of the abdomen was a fairly harmless procedure and where the diagnosis was in doubt and a mechanical cause was manifest, an exploration should be made to determine, if possible, the nature of the cause, and attempt at its removal should be made if possible. He did not question the value of drugs or of the trocar in properly selected cases. Medicine should yield to surgery when its mission had proven useless and where surgical intervention gave a hope of satisfactory results.

DR. L. E. NEALE referred to one case of his own that illustrated the good result of laparotomy for ascites in a manner even more striking than the case of Dr. Ashby. It was in a colored girl who presented a uterine fibroid accompanied by ascites due to no other discoverable cause than the local irritation of the peritoneum by the tumor. Dr. Neale removed three gallons of ascitic fluid by laparotomy and at the same

time took out the tubes and ovaries but left the tumor *in situ*. This was over two years ago: there has been no return of the ascites and the tumor has now entirely disappeared.

He was unable to explain satisfactorily this alteration in function of a serous membrane by substituting one irritant for another, especially where, as in his case, the primary irritant remained for a very considerable period. Laparotomy for ascites in certain cases was a well-known plan of treatment that had been thoroughly demonstrated as justifiable by the brilliant results of Mr. Lawson Tait and other laparotomists. In the present light of pathology on this subject he was at a loss to discriminate between therapy, trocar and knife, and thought each case must be decided on its own merits.

With reference to the removal of the second ovary when one had to be taken out on account of serious disease, he thought we were still in the dark. For although Mr. Tait held it to be better to remove both where any doubt existed, he had in his own experience one case to prove the exception. This was his first case of ovariectomy where a large unilateral multilocular cystoma was removed, and where the second ovary although somewhat enlarged and presenting numerous cysts about the size of a pea on its surface was, after much opposing advice by experienced laparotomists, left in with the result that the woman has since borne three fine children.

Dr. Neale exhibited specimens from his own cases where relief from hysteria-hysterio-epilepsy, dysmemorrhœa, etc., had followed the removal of these so-called cystic ovaries which, upon examination by an expert pathologist, were declared to be not sufficiently diseased to account for these disorders. From his own experience he was forced to believe that the severest functional disorders might arise from ovaries that were neither macroscopically nor microscopically diseased, and he was unable

always to tell what constituted a diseased ovary. This case was especially interesting, as it had been previously treated by another physician with a useless therapy and the trocar.

DR. WILLIAM PAWSON CHUNN read a paper on

CHRONIC INFLAMMATION OF THE VULVO-VAGINAL GLAND.

Chronic inflammation of the vulvo-vaginal gland is a rare disease, and not very frequently observed. It may be that while listening to these remarks others present may recall similar recollections. Such recollections are what is desired and which give to a discussion its value and make it of interest. Cases sometimes occur where acute attacks of inflammation do not subside in the usual way, but continue with frequent exacerbations, leaving the gland in a permanently pathological condition. For illustration, we may take the tonsil, which inflames, swells, suppurates and bursts, and which continues so to do until finally extirpated. My attention was first called to this trouble by a patient who complained of a mucous discharge about the vulva. She had had gonorrhœa sometime before and considered herself well, with the exception of the symptom mentioned. The discharge appeared at irregular intervals and was of a viscid, glairy nature. Naturally thinking it was from the uterus or vagina, I made a vaginal examination, but failed to detect the cause; the gland, at the time, being hid behind the speculum. A subsequent examination, however, was successful and a hard, nodular swelling was located at the site of the right vulvo-vaginal gland. The swelling was perforated by two or three small openings, which, upon pressure, gave vent to the peculiar fluid already mentioned. It was a source of considerable trouble to the patient and beside producing an eczematous eruption, was the cause of dyspermasia. This condition was treated by applications of iodine, introduced into

the sinuses, and, although some improvement resulted, a cure was not established. A second case, somewhat similar, came under my notice about the same time and with the same symptoms, but without any discharge. This proved to be a cyst of the gland, and was afterwards extirpated, much to the relief of the patient. A cyst, however, is not to be considered under the head of chronic inflammation, and is only mentioned as an aid to a proper diagnosis. A short time ago I was called in consultation to see a lady who was supposed to be suffering with a lupus or ulcer on the vulva, accompanied by a continual discharge, and pain on locomotion. After arriving at the house I made an examination, and found on the left side of the vulva, low down, and slightly within, the hard fibrous mass already spoken of. There were numerous small openings giving out a discharge upon pressure. The mass was hard and about the size of a walnut. I advised extirpation and, upon a subsequent occasion, operated in the following way: A vesical incision was made over the most prominent part of the swelling, through the skin, which was then dissected aside and, a pair of vulsellum forceps being used to hold the mass, the whole gland was rapidly removed with scissors. There was some hæmorrhage and one artery had to be tied. The upper part of the incision was then closed with three silk sutures, the lower angle being left open for drainage. The operation proved successful, and so far as I know the patient still continues well.

DR. B. B. BROWNE had met with a case (*Maryland Medical Journal*, vol. viii., p. 399.) in which the gland had ulcerated into the rectum. The patient had had an inflammation of the left labium: an abscess formed which broke on the mucous surface of the vulva and discharged a large amount of pus. The suppuration continued for about two months when she noticed that flatus escaped through the fistula and shortly afterward fecal matter also made

its appearance. At this time she consulted me and I found, upon examination, a fistulous opening leading from the labium majus to the lower bowel, passing in the direction of Bartholin's gland, thus forming a *recto-vulvar fistula*. In order to avoid, as far as possible, any weakening of the perineum, the incision was made directly outwards from the mucous surface and to the left of the median line. The fistula healed up from the bottom, and the integrity of the perineum was not in the least impaired.

DR. THOMAS OPIE had met with two cases of painful over-distention of the vulvo-vaginal gland, which he thought might have eventuated in abscess, if they had not been relieved. He thought that such abscesses were usually produced by over-distention of the gland, the duct having been obstructed by catarrhal or specific vulvitis. By seizing the gland between the thumb and forefinger and making firm pressure in the direction of the duct, the superficial obstruction at the exit of the duct was overcome. Having once started the flow it soon becomes easy to relieve entirely the distended gland. The relief in both cases was permanent.

DR. CHUNX explained that his cases were much more chronic than those related by the other members, one having suffered for more than six months. He thought Dr. Opie's method of squeezing the gland a good one in suitable cases.

DR. C. O'DONOVAN, JR., reported

A CASE OF PELVIC ABSCESS, FOLLOWING A FALL DURING PREGNANCY, AND DISCHARGING AT THE UMBILICUS.

On October 29th, 1883, Mrs. F. came to my office and gave the following history of her case:

About the middle of the preceding August, when she was near her time of delivery of her second child, everything being in good condition, and herself in the best of health and spirits, she tripped her foot while going down a flight of steps and

pitched headlong about six feet to the floor below, bruising herself considerably by the fall, but retained sufficient consciousness to remount the steps to the room above, when she fell unconscious upon the floor, probably only in a faint. Her frightened family carried her immediately to bed, but she grew worse and worse, becoming feverish and flighty in a few hours, from which condition she fell into a state of complete unconsciousness for five days. A physician in the neighborhood had been called in, who treated her judiciously, expecting miscarriage, but endeavoring by rest and sedatives to make every preparation for the anticipated trouble. This, however, did not occur, but the woman gradually grew quiet, then slowly regained consciousness, and, after the lapse of a full month, she was delivered of a child, exhibiting no marks of injury, although it lived but twelve hours. The puerperal period passed satisfactorily until the third day, when she had a severe chill, followed by a rapid rise of temperature accompanied by a violent pain in the pelvis and lower part of the abdomen. For this her physician treated her locally with large poultices over the abdomen and internal medication, probably anodynes, until the inflammation subsided somewhat, and became more localized, when he ordered turpentine blisters over the sore spots with continuance of the internal treatment. This continued for six weeks, or thereabout, during which time her local trouble seemed to be somewhat better, but her general health was constantly growing worse, so that when I saw her at my office I was shocked at the change I noticed in her. I had known her well, and, although I had heard of her accident, I was totally unprepared for the weak, thin, anæmic woman she now had become from the hearty, vigorous one of three months before. However she managed to get to the office I cannot tell, for so very weak was she that I feared she would be unequal to the task of getting home. She came with her

mother and sister, who talked for her, but she sat during the recital of her case, utterly listless, seeming to be the one least interested in her condition and satisfied that nothing could save her from speedy death. She had no appetite, and was unwilling to force herself to eat; milk she loathed, and any simple food sickened her immediately, and most likely was vomited; she craved nothing but ice water, of which she could never get enough. She complained only of an intense, overpowering sense of weakness and fatigue that would allow her to make no exertion whatever, and a heavy, dull pain in the lower part of her abdomen and back. Her pulse was 120, weak, thready and readily compressible. Her respiration was shallow and painful, and with the slightest exertion became hurried. Her expression of face was that of one suffering constantly, lacking animation, careworn and with the fear of death plainly written on her features. She complained also of a constant succession, at more or less regular intervals, of chills, slight sometimes, sometimes severe, but always followed by a fever and profuse sweat. Her bowels were irregular, often constipated, but, at intervals, quite loose.

Beyond this I was unwilling to go, but satisfied myself with hurrying her home, with strict orders to go to bed at once and stay there, giving directions for her nourishment, of milk, chiefly, with plenty of alcoholic stimulants. I saw her, in bed, the next day, and found her, as I expected, very much weakened, by her foolish excursion to my office, but otherwise unchanged. Upon examination an immense pelvic abscess was revealed, consequent, most likely, upon the cellulitis, and evidently pointing at the umbilicus, above which it extended on her left side. The whole pelvis was full of pus, which had pushed the uterus down until the vagina was almost obliterated. I ordered her a poultice to be applied about the umbilicus, and a tonic mixture containing iron. That night the

abscess burst at the umbilicus, discharging large quantities of pus, the amount of which could not be ascertained. From that moment she began to improve; she accepted nourishment in small quantities at first, to be gradually increased; her spirits recovered somewhat their usual elasticity; her hectic rapidly diminished; her respiration became fuller and painless. On November 8th her pulse was 108, full and regular, and was rapidly convalescing. I may add that she has never been sick since, and has been delivered of two healthy children at term without difficulty.

This case is interesting for two reasons, chiefly; that it shows the remarkable constitution of the sufferer in whose pelvis and abdomen so large a collection of pus was tolerated for a long time without producing any permanent injury; and that it shows, again, how useless, and perhaps even harmful, is meddling interference with nature when her processes are tending to a satisfactory end; additional safeguards, such as iodoform, washing out with carbolized water, or drainage through the vagina, could not have given a better result than was obtained without them.

Regular Meeting, December 11, 1888.

THE PRESIDENT, DR. THOS. OPIE, IN THE CHAIR.

DR. G. W. MILTENBERGER read a paper on

TETANOID CONTRACTION OF THE UTERUS.

On the evening of October 19th, 1887, I was called by my friend Dr. H. M. Wilson, a most skilled and experienced accoucheur, to see with him a case of labor, some six or eight squares from my office. From the statement of the messenger I expected to meet with a case of difficult delivery in a primipara, but on entering the chamber of Mrs. — I was horrified, on meeting the doctor, to be told that his patient was dying, and to see a large, finely developed woman, 27 or 28 years of age, in the very

agony of death. Total unconsciousness, two or three gasping respirations, a faint beat or two of the heart, when all was still and the scene closed. I immediately listened for the sounds of the fetal heart, but not a throb responded; mother and child were both dead. The doctor and the husband requested me to at once deliver the child, and learning that the doctor had already made a fruitless endeavor with Simpson's and later Tarnier's forceps, and knowing thoroughly his experience and skill, and being told that with the instrument he could bring the vortex down to the vulva, but the moment traction was relieved the head flew back above the superior strait, I realized the inutility of their employment, and proceeded to perform version.

Upon introducing the right hand, supporting the fundus uteri with the left, I found a vertex presentation, R. O. I. A. position, head above the superior strait. The os was perfectly soft and dilatable, not offering the slightest resistance, head movable, cervix soft and relaxed, not thinned nor distended, no strain upon the structure whatever. With the external hand I found nearly up to the umbilicus of the mother, a deep furrow upon the external surface of the uterus corresponding to the so-called ring of Bandl, the contraction ring of Schroeder, the retraction ring of Lusk, the organ above this line being firmly contracted and retracted. The internal hand, readily passing the head, met with a ring or constriction, corresponding to the external furrow, entirely too high for the internal os uteri, surrounding most closely and tenaciously the neck of the child, the head below in the soft, relaxed and not distended or stretched lower segment, the trunk in the contracted and retracted portion above. This band or constriction was as firm and resistant as a *rope of steel*. I could with the most determined effort force the points of one or two of the fingers between this and the neck, but for a time no further. I certainly never had

felt anything like it before, but recognized the condition called by that eminent authority, R. P. Harris, Philadelphia, "Tetanoid Falciform Contraction of the Uterus," and Dr. Hosmer and Dr. Thos. C. Smith, of Washington, D. C., "Ante-partum Hour-glass Contraction of the Uterus," in the latter's valuable résumé of these cases in the *American Journal of Obstetrics*, Vol. XV, November, 1882. I for a time feared I would be foiled, but after a most determined effort I finally succeeded in passing it and ultimately reaching the foot. Still the resistance did not entirely yield, and it was only after further powerful and persistent effort that the constriction yielded and I was able to turn and extract. I am convinced that I could not without injury have succeeded during life. The placenta was then removed without further difficulty.

I then learned from Dr. Wilson the previous history of the case. Five days previously the membranes had ruptured and waters had been discharged. On the morning of the 19th he was called at 6 A. M., found pains of first stage, soft parts of pelvis relaxed and well lubricated, vertex presenting R. O. I. A. position, as far as he could determine, the external os still closed. Upon returning in two hours, at 8 A. M., os was dilated to size of a dime, edges soft and thin, and he then remained with her uninterruptedly until the fatal close, so that she was constantly and closely watched, and every possible attention and care bestowed. Everything seemed to progress favorably, with occasional but not inordinate nausea and vomiting. The advance was slow and gradual, and about 5.30 P. M. the os was sufficiently dilatable to apply the forceps, which was cautiously and carefully done. Simpson's were first used, there being no difficulty in their adjustment. No advance, however, could be effected and they were removed and Tarnier's applied. With the latter he could cause the caput to appear at the vulva, but

when the pressure was relaxed it would instantly recede to its former position.

It was at this juncture I was sent for, and the doctor finding her pulse failing resorted to all means of resuscitation, but she died in about 30 or 40 minutes. The patient had had chloroform administered at the height of her pains previously to the use of the forceps, but only to the obstetric degree, not to full anæsthesia or unconsciousness. With the application of the forceps full anæsthesia was induced and maintained, yet the obstruction was not in the least overcome or affected, and even after general or somatic death the steel-like band remained apparently, and certainly practically, as persistently contracted as before. And this has been the history of nearly all these cases as yet observed. In Dr. Baltzell's case, one of the first on record in this country, occurring in Frederick County, Md., the woman had been twice freely bled, forceps had been repeatedly used, version had been attempted, and yet at the autopsy, 4 hours after death, the constricting ring was still hard, firm and unyielding.

This whole case is replete with interest and at every point. In the first place, up to 1882, the date of Dr. Smith's paper, he had found on record and authentic 33 cases, occurring in 30 women; in the second place, they have all or nearly all occurred in the hands of obstetricians of acknowledged skill and experience, very many of them having been under the observation of recognized masters in the art; in the third place, they have resisted very generally the most enlightened and persistent efforts at relief; in the fourth place the mortality has proved appalling. In 33 labors of 30 women 8 women and 25 children were lost, 3 women dying undelivered; of the whole number 7 were primiparæ, of whom 4 died.

The mere mention of some of those who have treated and recorded these cases suffices to show that everything which in-

telligent knowledge could effect was done. Drs. Hosmer and Stone of New England, Dr. T. A. Reamy of Cincinnati, Prof. Elliott of New York, Prof. J. Y. Simpson of Edinburgh, Drs. Tabor Johnson and T. C. Smith of Washington, D. C., Angus McDonald, and others. Forceps, version, opium to full extent, chloroform to surgical anæsthesia repeated and continued, craniotomy, have all been resorted to, and all with like result. And even where these means or greater part had been used, in more than one case, as I have said, the unyielding bone-like or steel-like structure has persisted even after death. The character and history of these cases has led to their being termed by Harris "Tetanoid Falciform Contraction of the Uterus," by Smith and Hosmer, "Ante-Partum Hour-glass Contraction of the Uterus." Their whole history is that of spastic contraction. This could only occur in muscular structure, and the question immediately arises as to its seat, whether, as believed by Hosmer and others, it is at the internal os, or whether, as more generally believed, it is in the muscular structure above that point. In the majority of cases the observers have stated it was at a point too high to correspond to the internal os, even at times by those who have doubted whether any such condition as post-partum hour-glass contraction ever exists. So acute and experienced an observer as Dr. Reamy says of one of his cases: "It seemed certain that the band of constriction did not pursue a direction corresponding to the os internum." In the case of Dr. Arnold, of Roxbury, Mass., "the constriction was about the upper third of the uterus, encircling the child and inclosing its hips and lower extremities." Dr. Gray states of his case, seen in consultation, "the uterine contraction was not that of the os uteri but existed above it. In this he could not be mistaken."

One of the most important and satisfactory instances is that of Dr. P. R. Shaver,

of Stratford, Ontario. It was a case of twins, and he states and reiterates "that one child and its placenta were distinctly contained in the lower compartment, the second child and its placenta in the second and upper compartment above the stricture." Now, as a child and placenta could not have been contained and going on to term in the cervical cavity, the seat of constriction could not have been at the internal os. In the case I now report the constriction was certainly too high for the internal os. Where then could it be?

These cases differ from those of Bandl, for the history and etiology of which we owe him so much in connection with rupture of the uterus. In cases of rupture almost uniformly we find some mechanical resistance to the progress of the child, in advance of it, by contracted pelvis, by mal-presentation of fœtus, by too large size physiological or pathological of the latter: we find the lower uterine segment elongated excessively, thinned until almost like paper, stretched and distended to the utmost and ultimately ruptured. In these the obstruction is above the lower uterine segment, clasping some part of the child, the inferior segment itself soft, yielding, not thinned, not stretched, and rupture not occurring. I cannot see that it can occur elsewhere than in the musculature of the body of the uterus, entirely above the os uteri internum, and constituting a true ante-partum hour-glass contraction. If then it is in the body of the uterus, can we determine its special seat and mode of production? Dr. Smith quotes Dr. Parish, of Philadelphia, in a discussion of post-partum hour-glass contraction in 1879 as saying: "Professor Hélic has demonstrated the existence of bundles of fibres running obliquely from either side of the body anteriorly and posteriorly to the fundus." Professor Hélic states that a spasmodic contraction of these fibres in one half of the uterus would divide the uterus into

two compartments, one of these being that portion of the cavity into which either Fallopian tube opens, *i. e.*, "the infundibulum," and the other compartment being the rest of the uterine cavity. Professor Hélié states that he has twice verified this by most careful digital examination, and in each case had to dilate the closely constricted portion to remove the incarcerated placenta."

Continuing, Dr. Parish goes on and states: I have been informed by Dr. R. G. Curtin that, in Cæsarean section performed by himself, a sulcus, transverse in direction, was seen to come and go in the body of the uterus. This sulcus, in the external surface, was evidently due to contraction of bundles of transverse fibres in the middle of the body, for after the uterine incision had been closed there was noticed an irregular gaping of its edges at the time of the formation of the transverse groove. A spasmodic contraction of the fibres that produced this shallow furrow, could have undoubtedly produced a marked hour glass contraction of the body of the uterus. There was no abnormal alteration of tissues in the uterus. "This furrow seen by Dr. Curtin was evidently the so-called Ring of Bandl, which I have more than once felt and seen."

In the case of Sænger's operation by Dr. Neale in 1887, this furrow could be plainly seen through the abdominal walls by the most superficial observer. The oblique fibres so well described by Professor Hélié, will not account for this furrow, or for the condition to which I have called your attention. To probe this matter a little further, I must beg your patience for a time, while we examine a fragment of anatomical and physiological history which may throw some light upon it, and I am the more disposed so to do, as our textbooks are not very clear upon these points, and as I know that the views, not only of students, but of practitioners, are too fre-

quently obscure and their knowledge but partial, taking words for things.

Although as far back as the 17th century, some, as DeGraaff 1671, Verhagen 1701, Weitbrecht 1750, held that the cervix remained unchanged until the end of pregnancy, Roederer in 1753 asserted the expansion of the cervical canal, and shortening, advancing regularly from above downwards and commencing as early as the sixth month. This continued the prevailing doctrine until 1826, when Stoltz insisted that the cervix was unchanged in length until the last fifteen days of pregnancy, and then the internal os opens, the cervical canal dilates from above downwards, and the cervix is gradually effaced, softening beginning below and extending upwards, shortening beginning above and extending downwards. In 1862, I. E. Taylor, N. Y., made some important observations showing that the cervix did not shorten, at least in many instances, until the inception of labor. W. Braune, in 1872, followed by Bandl, in 1876, and A. Martin, 1877, returned to and revived the old doctrine of Roederer. Braune saw in the frozen cadaver of a woman dying during labor, the lower segment of the uterus very much thinned, and above this thinned portion, a determined wedge-like muscular ring projecting into the interior of the uterus, the ring of Bandl, which he locates at 4 to 6 inches above what is generally recognized as the ring of Müller. Now this ring of Müller is the os internum, while above this is the aforesaid wedge-like projection of Braune, or ring of Bandl, or the second os internum of Scanzoni, between the body proper and the lower segment of the uterus. Braune and Bandl teach that during the last ten weeks of pregnancy the lower segment of the uterus and the upper part of the cervix soften, the latter dilates and permits the entrance and descent into it of the lower part of the ovum, thus forming what has been termed the cervico-uterine canal of Braune, the wedge-like ring above being

the real os internum, this dilated portion being the cervical canal at its upper part, and therefore that the cervix does shorten during pregnancy. Scanzoni, Müller, Barnes, Holst, Schroeder, Duncan, Taylor, Spiegelberg, Hoffmeier and others have proved that the os internum does not, as a rule, open before labor, nor the neck shorten. The latest examinations upon this subject are by Hoffmeier and Benckeiser, 1888, who fully sustain this view. They show by their sections of uteri unimpregnated and pregnant, that the uterus is divided into three parts of segments, the upper part of the body, the Barnes' zone, just above the neck and the cervix. They, I think, have demonstrated that the cervix, as a rule, does not open above or shorten until labor sets in, that above the os internum the lower zone is narrow in the unimpregnated organ, differing in histology and structure from the cervix, and from the upper part of the corpus. The cervix retains all its characteristics up to labor. In the latter months the lower zone thins, dilates, and between this and the upper zone is found the ring of Bandl. All these latter find the os internum evident at time of labor, and Bandl's ring entirely above it.

What then is this so-called ring of Bandl? It can only form at the junction of the thickened wall of the corpus uteri, with its middle or medullary layer, as described by Savage, with the lower segment which is so much thinner. Both the fundus and the lower uterine segment are materially thinner than the intermediate portion. The latter is often two or three times as thick as the lower segment. The effect of contraction then would be felt particularly in the distention of this lower segment. The tissues there are thinner, fibres are more nearly longitudinal, and therefore offer a weaker resistance. The weight of the ovum, when the woman is erect, presses upon this part, and the action of the abdominal muscles is transmitted in

this direction. Barnes has worked out practically the same thing with regard to his cervical zone or zone of danger, in connection with the natural history of placenta prævia.

The ring of Bandl and of Braune is certainly not the internal os, and it can only be found and formed at and by the lower edge of the medulla, where this plexiform layer thins out and loses itself in the cervical segment. Barnes' specimens distinctly show this well defined lower segment, which is clearly distinguished from the body above by three features: 1. It is thinner. 2. The muscular structure is less marked. 3. It is less rich in vessels. This lower segment is divided from the body by a more or less marked ridge which goes all around the uterus, Bandl's ring. From this ring upwards the walls of the organ begin to be richer in vessels, the wide lacunæ of the middle layer begin, and corresponding to this line on the outer wall, large vascular trunks run in and out of the uterus. This boundary between the body of the uterus and its lower segment is easily felt in the living organ at the level of the pelvic brim, and has been called by Lahs "the pelvic brim ring or stricture." It can be felt on introducing the hand to practice version and often when the hand is introduced to remove the placenta. One again sees the difference in structure in the two portions, in well-developed uteri which have been some time steeped in alcohol, the middle medullary layer of the body of the uterus ending in a point downwards, between the inner and outer layers of the lower segment. The marked development of this lower segment begins at a date not exactly determined, but the walls are observed to become softer towards the seventh month. The title, "Pelvic brim ring of Lahs" would not be very precise, the name of Bandl's or Braune's ring would not express the truth as they both consider it the os internum. The better name would be the contraction ring of Schroeder, or the re-

traction ring of Lusk, as it is at the junction of the corpus with the lower or cervical zone, at the level or line where the middle, thick or medullary layer ceases, and when in obstructed labor it becomes largely displayed as when rupture is threatened, when it is evident to palpation through the abdominal walls, and even to the sight, as I have seen it, and more than once, it is clearly due to this extent to the contraction and retraction of the upper thicker walls of the body of the uterus. In the light, then, of thorough examination by the most competent observers, and of practical experience, we are forced to the conclusion that this seat of the constriction is the lower edge of the medulla, the so called ring of Bandl. As yet we are not able to trace or determine the disposing cause for its appearance. It is true that in a considerable proportion of the cases recorded the waters have been early, and in some long evacuated. But we know how often this occurs without such result, and in many of these cases it did not present. In Bandl's cases of rupture or threatened rupture, to which he particularly and so intelligently called attention, this constriction or hour-glass contraction was situated at the same point, the wedge or ring was produced at the same site and in the same manner, and there was always an obstruction before the presenting part of the child, when of course the contraction of the medullary and fundal portions of the uterus, with their retraction, must produce this effect; and the cause is evident and at once appreciated. In this category, however, there is generally no such obstruction and the producing cause, so far, eludes our grasp. It is certainly, however, important to learn and determine its true seat and character. Nor is this question one of simple, theoretical interest, but one of the utmost practical import as to the treatment.

With the inefficiency of the treatment heretofore employed the question would very naturally arise, and it has been sug-

gested by Harris and Hosmer, whether we should not resort to Cæsarean section (Sänger's). If we take it to be at the internal os, this almost settles the question at once, as it would violate one of the fundamental laws of that operation; to respect, in our incisions, the cervix.

Apart from this, however, we have the difficulty and delay in diagnosis. The only general symptom in these cases, has been the early discharge of the liquor amnii, by no means followed necessarily or usually by this result. After this we have only the delay, until by this we are led to attempt extraction by one or another mode. Here, however, would come into strong relief the precious results of systematic external exploration by palpation, so useful, so pregnant with information, unfortunately so systematically neglected. If by palpation we detect Bandl's ring we know there is danger imminent, we know we cannot longer delay and wait, we are told at once that the period of expectancy has passed. It may portend rupture, it may be this hour-glass contraction, and in either case we must take the labor and at once into our own hands. But upon this external examination alone we should not found our absolute and special decision. This could only be done upon thorough internal exploration and the detection of the constricted ring. But trusting to internal exploration alone, we find the head movable at the superior strait, (there were only two cases of breech presentation), the os soft and dilatable, the cervix not thinned nor stretched, and almost intuitively and instinctively the practitioner would apply the forceps and then only learn the impossibility of extraction. The hand then introduced beyond the head, probably, if the obstetrist were ignorant of this condition, with the intent to turn, would find the fatal steel-like band. If the attendant be aware of the possibility of this accident, if by palpation he discovers the Contraction ring or Retraction ring, he would at once

pass the hand above this presenting part and if he finds the Ring learn at once with what he has to deal. Now if this were at the os internum Cæsarean section would be almost forbidden, or at least its hazards would be vastly increased; if it be found situated where I have stated, and where I am sure it is with the inefficiency of all the means heretofore employed. I deem the modern Cæsarean section would find its place, as in cases of threatened rupture, where the obstruction in advance of the child could not otherwise be removed.

Up to 1882 Dr. Harris, whose opinion is of so much weight and value that I should hesitate long before differing with him, was disposed to take this view, but not until turning had been attempted.

But from all that he has later so well taught as to the propriety and superiority of early operation, and the great disadvantage of prolonged or active manipulation before the use of the knife, I think he would speak more positively as to the advisability of the early operation after a diagnosis were once certainly made.

This imperfect résumé of facts, for facts they are, upon this so important structure, justify us I think in coming to certain conclusions.

1. That a true "Hour-glass Contraction of the Body of the Uterus," (Smith and Hosmer) a "Tetanoid Falciform Contraction of the Uterus," (Harris) does occur during labor, and constitutes one of the most serious difficulties of the process.

2. That by palpation it may be detected in a large portion of these cases.

3. "Clinical facts demonstrate that the segment of the uterus below the stricture is in a relaxed condition, and only in exceptional cases is thinning thereof to be recognized," (Smith).

4. That from anatomical and post-mortem examinations most carefully conducted by most astute and reliable anatomists and pathologists, supported by clinical observations of the most searching character by

obstetrists, acknowledged as masters of the art, this ring or contraction, the ring of Bandl, the contraction ring of Schroeder, or the retraction ring of Lusk, is not at the internal os uteri, but above the lower segment, the cervical zone of Barnes, at the lower edge of the body of the uterus, or of the medulla of Savage, and is produced by the contraction and retraction of this upper part of the body.

5. That this fact once established while we can not yet positively formulate their treatment, their mortality has been so large and the success of the modern Cæsarean section has been so great, that it speaks strongly in favor of the latter.

One word in conclusion in connection with the case of Dr. Wilson. I have been asked, whether in view of the history of this case, there might not have been a rupture of the uterus. Having this possibility in view, after my recognition of its character, I most carefully, in my manipulations, examined every part of the organ and can state positively that no such lesion existed.

Hæmorrhage certainly was not the cause of death. It may have been due to embolism, but in the absence of a post-mortem, we would not be justified in such an assertion.

In the 30 women whose cases were collected by Dr. Smith, there were three cases of contracted pelvis, one of shoulder presentation and one of fibroid before the child, partly filling the pelvis.

In only one case was the cervix thinned, and that was reported by Bandl, being a face presentation.

There was one case of rupture [case xv] but the reporter states, an amount of force was used which under other circumstances would be unwarrantable, and that external pressure was made over the head, the rupture being a bruised laceration at this point where pressure had been made upon the head in the attempt at version.

ADDENDA.

It is of interest and importance to note that these various anatomical details have been worked out without reference to this special accident.

Since writing the above two interesting cases have come to my knowledge; the one at full term reported by Dr. S. T. Earle, of Baltimore, the other at six months by Prof. T. A. Ashby. One mother lost, and both children.

Results of new Cæsarean Section; Säger: by Dr. Harris, Sept., 1886. *Medical News*.

In Germany 84 per cent. of women saved.

In Austria 50 per cent. of women saved.

In Italy 50 per cent. of women saved.

In France 100 per cent. of women saved, only two cases.

Potocki, in June, 1886, gives the following table of operations done at Dresden and Leipzig:

Ten by Leopold and his assistant Korn, and 6 by Säger and his assistants Obermann and Donat. Fifteen recoveries for mothers—93.7 per cent.; 16 children living—100 per cent.

If we add to these 3 cases at Innsbruck, all of which were successful, we have 19 operations and only (1) one woman lost.

Caruso gives us the very latest data of the new Cæsarean operation: Up to October 1st, 1888, comprising 135 cases; six successful cases in addition, are known to Caruso, but the details necessary for publication were lacking.

The results are 74.44 per cent. of recoveries among mothers in all cases, and 91.73 per cent. recoveries among children.

The mother has three chances out of four, and her child nine out of ten for life with this operation. What a contrast with the results of these cases in this paper; in 36 cases occurring in 33 women, 10 mothers and 28 children were lost.

DR. H. M. WILSON thanked Dr. Miltenberger for his exhaustive résumé. Some

points connected with the case made it very peculiar. The surroundings were all satisfactory, and nothing occurred to suggest any danger until the failure to deliver by forceps. Then noticing the strange appearance of the face, the inhalation of chloroform was instantly suspended. She soon came from under its influence. Hypodermics of brandy were repeatedly administered, but without the slightest impression on the fatal collapse which ended life in from 30 to 40 minutes. During this brief time every effort was directed towards sustaining life, and no opportunity afforded for further efforts at delivery. In his study of this case no explanation of the sudden collapse is satisfactory, except embolism, and this is only a conjecture as no post-mortem was had. No ergot had been used and but little chloroform. Dr. Smith of Washington, who wrote concerning the case, thought rupture of the uterus might have taken place, but positive proofs to the contrary were adduced by Dr. Miltenberger. Tetanoid contraction of the uterus is happily infrequent, but the collapse attending the case under discussion renders it unique as far as his experience or reading extends.

DR. JOHN MORRIS said, that were it not for Dr. Miltenberger's most positive statement, he should consider this a case of ruptured uterus; it is in every particular a history of such condition. With the ring of Bandl he had been acquainted long before it had been so named; every obstetrician has met with it, but he has been accustomed to hear it called "the hour-glass contraction." He could not understand the death of this woman, nor the tetanoid contraction; such a condition he had never seen. She had no hæmorrhage, and was not exhausted. The only theory that he could advance was an embolism.

DR. T. A. ASHEY said: I have listened with great interest and profit to the paper read by Dr. Miltenberger. He has treated the subject so thoroughly that nothing has

been left for discussion. The paper suggests an experience which corresponds with that related in the paper. Its recital in this connection will not be out of place. On the 10th of September, 1888, I was requested to go to the country to see the wife of a medical acquaintance living in Anne Arundel county. I was advised to come prepared to remove a retained fœtus. Upon reaching the house I found the patient, a primipara, about 22 years of age, in the following condition: Twenty-four hours previously, without known cause, labor pains came and she partly expelled a six months' fœtus. Her husband had attempted to remove the fœtus, but finding that he could not do so desisted, and called on me for help. I found the fœtus enclosed in the amnion, presenting with its head external to the vulva. Attempting to remove it, it was found firmly grasped by the uterus as if in a vise. The finger could be passed around the head and shoulders and up into the uterus, the cervix being open and dilatable. There was no opposition to its expulsion from the pelvic canal, but it was firmly caught around the abdomen by a tetanic contraction of the uterus at the ring of Bandl. In this condition it had remained for some hours, the patient having lost all expulsive power. In an attempt to remove the fœtus its head nearly parted from its body, and the uterus was drawn down to the vulvar opening. After some effort, I succeeded in removing the entire body, but the constriction ring contracted so firmly that the placenta was held in the uterine cavity. The finger would not overcome the constriction and it became necessary to introduce the curette and remove the placenta piecemeal. The patient bled profusely and came near perishing from hæmorrhage before I could remove the placental tissue and secure retraction of the organ. By the use of hot water, vinegar and, lastly, a dilute solution of Mönse's solution, all bleeding was stopped and a successful recovery followed.

The history of the patient presented no explanation as to the cause of premature separation, and for the anomalous condition of tetanoid contraction at the sixth month of gestation. The condition observed was strikingly similar to that reported by Dr. Miltenberger, in the case of Dr. H. M. Wilson, the exceptions being in the premature development of labor and the recovery of the mother. The fœtus presented evidences of having been dead several days. Why this tetanic condition of the uterine muscles should have continued for so many hours (about 24) I am unable to explain. The amnion had been exposed external to the vulva opening long enough to assume a parchment condition and undergo partial decomposition.

DR. G. W. MILTENBERGER, in reply to Dr. Morris, recalled Baltzell's case, in which the rigidity still continued at the autopsy, four hours after death. Such occurrences are common. Organic life still persists after the entire cessation of the life of relation. The hair and nails grow after general or somatic death. Posthumous births show the same thing. Leroux felt the uterus contract fifteen minutes after the death of the mother. Osiander saw it contract as during life in making a post-mortem Cæsarean section. As to the detection of the so-called Bandl's ring by palpation, he has more than once not only felt but seen it. It is produced by contraction and retraction of the upper part of the corpus-uteri. In reply to Dr. H. M. Wilson's question, as to the probability of turning in the given case during life, he said that over and over again the best men had been foiled in attempting version in these cases, and in this case of Dr. Wilson's he was convinced that without inquiry he could not have succeeded during life. He then gave a full description of the ring of Bandl, and of the inferior segment of the uterus, the conical zone, or zone of danger of Barnes, and said (a matter of some interest in connection with his paper), that

the softened zone which constituted Hégár's sign of early pregnancy was of course this same thin inferior segment, between the firm cervix below and the lower edge of the medulla of Savage above.

ALBUMINURIA IN THE PREGNANT FEMALE.

DR. G. LANE TANEYHILL exhibited a test tube so heavily loaded with albuminous urine, 90 per cent., that lying in a horizontal position the substance was not displaced, which, he remarked, was voided three days since by a woman aged 36, light hair, of low stature, stout, who had severe headache with dropsical effusion, so extensive as to involve the face, and who expects to be confined in a few days. She has had two children, the youngest being 15 years old. He is administering 5 grains of benzoic acid with 10 grains of bicarbonate of potash every three hours, and produces free catharsis by large doses of epsom salts, every forty-eight hours. He had used this combination in the obstetric wards of Bellevue Hospital, in 1868, in similar cases with considerable degree of success, and had continued the same practice for the last twenty years in all cases when called in ample time to institute medical treatment. He understood that it was held by Golding Bird that benzoic acid exhibited in cases of albuminuria possessed the power of obviating the toxæmic state by preventing the waste of albumin and removing the urea. While he agreed with Dr. Opie that special medication was not apt to be of much avail where the albuminuria depended solely upon the mechanical pressure of the gravid uterus, yet he was inclined to believe that by this eliminating process vigorously prosecuted, he had averted cases of eclampsia; that a sample of this same woman's urine, tested to-day, showed some decrease in the amount of albumin and the headache had disappeared. Comprehending the gravity of the situation he interrogated the society regarding the treatment most applicable in a case of albuminuria previous to confinement.

DR. H. M. WILSON remarked, that the amount of albumin indicated a very serious condition. He advised a continuance of the saline treatment, preferring potas bitartras. When labor commenced, the first indication of brain sympathy, such as twitching, should be the signal for chloroform and the forceps. Indeed, under the circumstances surrounding this case, he should think prudence would suggest the termination of labor at the very earliest moment and by the readiest means.

BOOK REVIEWS AND NOTICES.

A TREATISE ON THE DISEASES OF WOMEN, FOR THE USE OF STUDENTS AND PRACTITIONERS. By ALEXANDER J. C. SKENE, M.D. Pp. xiv. and 966. New York and Chicago: D. Appleton & Co. 1888.

The author states in his preface that the book was written for the purpose of "bringing together the fully matured and essential facts of gynæcology" so arranged as to meet the needs of students and practitioners. In carrying out this plan the history of the development of the art and all marginal references to current literature are entirely omitted. The author's claim that the book contains chiefly his own opinions and methods is amply sustained, although he quotes freely from others.

The eminently practical nature of the book is its most striking characteristic, and this is impressive in both cursory and careful reading of it. In this respect it fulfills to an admirable degree the intention of its author.

An unusual amount of space is given to the discussion of diseases of the bladder, and it is, of course, well done.

Students, and more especially practitioners whose experience is just ample enough to impress them with a realizing sense of their own inability to use pessaries successfully, will find the treatment of the subject especially suggestive, clear, and practical.

The question of electrolysis is somewhat slighted, but in defense the author would probably urge the "matured and essential facts" clause of his preface, as doubtless, in common with many others, he considers the question unsettled. His remarks in regard to the unsatisfactory character of abdominal electrodes do scant justice to the one invented and manufactured in this city.

He evidently thinks that Alexander's operation for shortening the broad ligaments is one which will be resorted to more frequently by unskilled than by fully competent gynecologists. He seems disposed to class it, much as he does the removal of the ovaries, as an operation to be performed only "when all other treatment fails and the patient remains a hopeless invalid. In the treatment of chronic cervical endometritis he thinks that better results are secured by a not too vigorous treatment. But his position on this point cannot be fairly presented here.

A valuable feature of the book is the free use made of what are styled "illustrative cases." These are selected and reported in such a manner that they may be used as models in similar cases, and at the same time they increase the clearness of the exposition of the topic under discussion.

The final chapter in the book is a somewhat rambling discussion of the relation of gynecology to insanity in women. It is based upon the author's experience as Gynecologist to the Insane Asylum at Flatbush. It is an important and very valuable contribution, but in a second edition ought to be rewritten and greatly condensed.

The report and description of what are called Skene's glands of the urethra is something entirely new and deserves the attention which he asks for it.

The illustrations, which are very numerous, are a valuable feature of the work. In addition to those which describe the instruments which the author has devised, many are entirely new. Among them are six colored plates which are not only less objectionable than such chromo-lithographs usually are on the score of color, but also give a clearer idea of the point illustrated than uncolored plates can.

The faults of the book are no less striking than its merits. It is needlessly large. It abounds in carelessly or hurriedly written descriptions in which, as also in the book at large, there are many unnecessary repetitions. Careful revision will improve it greatly in these respects.

The descriptions of pathological histology are in many cases incorrect, and the general classifications are often not those accepted by pathological anatomists.

The index is very incomplete, entirely out of keeping with the very great merit of the book itself.

In the new editions which will surely be demanded it is to be hoped that the distinguished author can find leisure to give the work such a revision as its exceptional value deserves.

E. W.

SANDERS' QUESTION COMPENDS.—

ESSENTIALS OF SURGERY: together with a full description of the Handkerchief and Roller Bandages. By EDWARD MARTIN, A.M., M.D., Instructor of Operative Surgery, University of Pennsylvania; Surgeon to the Howard Hospital, etc. With Ninety Illustrations. 8vo., pp. xi—314.

ESSENTIALS OF ANATOMY.—Prepared especially for Students of Medicine. By CHARLES B. NANCREDE, M.D., Senior Surgeon to Episcopal Hospital, Philadelphia, etc. With 117 illustrations. 8vo., pp. x—352.

ESSENTIALS OF MEDICAL CHEMISTRY. Prepared especially for Students of Medicine. By LAWRENCE WOLFF, M.D., Demonstrator of Chemistry, Jefferson Medical College, etc. 8vo., pp. xi—214.

ESSENTIALS OF OBSTETRICS. Prepared especially for Students of Medicine. By WILLIAM EASTERLY ASHTON, M.D., Demonstrator of Clinical Obstetrics in Jefferson Medical College, etc. With illustrations. 8vo., pp. xi—220. Philadelphia: W. B. Sanders. 1888.

"At the present time," says the prospectus of these Question Compendis, "when the student is forced by the rapid progress of medical science to imbibe an amount of knowledge which is far too great to permit of any attempt on his part to master it, a book which contains the 'essentials' of a science in a concise yet readable form must of necessity be of value. . . . The usefulness of arranging the subjects in the form of *questions and answers* will be apparent, since the student, in reading the standard works, is often at a loss to discover the important points to be remembered, and is equally puzzled as to the manner in which the *questions could be put in the examination-room*. . . . Manuals of this kind are in no way intended to supplant any of the text-books, but to contain, as its (?) title declares, the essence of those facts with which the average student must be familiar."

It is not an impertinent question, we think, to ask if the writer of the above learned the "essence" of English grammar, logical style, and diction from a "Question Compend." If the student of the present is *forced* to "imbibe" more knowledge than he can even attempt to master, is it a logical *sequitur* that a book containing the "essentials" of a science is necessarily of value? Is it true that the student of the present is forced to "imbibe" a larger amount of knowledge than he can attempt to master? We deny that such is the case. The statement is no more true than that the eater of the present is forced to "imbibe" a larger amount of food than will admit of an attempt on the part of the stomach to digest. From the prospectus of these

"Compend" one might get the impression that conciseness and readableness are usually considered incompatible. Such is not the case. Nor are the "Compend" "concise yet readable;" they are neither the one nor the other. They are synoptical.

Perhaps it is true that the "usefulness of arranging the subjects in the form (?) of *questions and answers* will be apparent"—possibly in the distant future, but it certainly is not apparent *now*. We were not previously aware that standard works contain material that the student may as well forget. We do not believe that a good student ever thinks of how questions may be put in the examination-room. He studies his subject as thoroughly as possible, learns it *understandingly*, not by rote, and at the examination he is ready for any questions.

There are no short cuts to knowledge. The student that turns himself into a human parrot may pass a brilliant examination before an inferior examiner; but he will fare badly before a good examiner, and will find himself very deficient in knowledge when he enters upon practice.

For the purpose for which they are intended—medical catechisms—these Compend are probably as good as any other works of the kind; but the student that cannot learn medicine without using the kind, had best conclude that a wise Providence intended him for a tradesman rather than a professional man.

A SYSTEM OF GYNÆCOLOGY. By American Authors. Edited by MATTHEW D. MANN, A.M., M.D., Professor of Obstetrics and Gynæcology in the Medical Department of the University of Buffalo, N.Y. Vol. II. Illustrated with four colored plates and 361 engravings on wood. 8vo., pp. xiii.—1180. 1888. Philadelphia: Lea Brothers & Co.

This volume contains eighteen articles. Dr. Charles Carroll Lee contributes the opening paper on "Diseases of the Vagina." "The Hystero-Neuroses" is the title of the second paper, one of more than one hundred pages. Dr. T. Gaillard Thomas contributes the article on "Extra-uterine Gestation," Dr. Samuel W. Gross that on "Tumors of the Breast," and Dr. Roswell Park on "Diseases of the Breast other than Tumors." The remaining subjects, with the authors, are as follows. "Fistulæ," by Dr. E. W. Jenks; "Diseases of the Bladder and Urethra," by Dr. William H. Baker; "Non-malignant Tumors of the Uterus," by Dr. R. Stansbury Sutton; "The Malignant Tumors of the Uterus," by Dr. W. T. Lusk; "Lacerations of the Cervix Uteri," by Dr. Bache McEvers Emmet; "Chronic

Inversion of the Uterus," by Dr. Samuel C. Busey; "Injuries and Lacerations of the Perineum and Pelvic Floor," by Dr. Howard A. Kelly; "The Treatment of Ovarian and of Extra-ovarian Tumors," by Dr. William Goodell; "Diseases of the Ovaries," by Drs. Robert Battey and Henry C. Coe; "Diseases of the Fallopian Tubes," by Drs. Henry C. Coe and W. Gill Wylie; "The Pathology of Ovarian Tumors," by Dr. Stephen Y. Howell; "The Clinical History and Diagnosis of Pelvic Tumors other than Uterine and Tubal," by the editor, Dr. Mann; and "Displacements of the Uterus," by Dr. George T. Harrison.

The least that can be said of the volume is that the character of the articles shows that the editor has made a wise selection of contributors to the American System of Gynæcology. The illustrations, as a rule, are very good. Of the colored plates, the less said the better. The making of colored plates that will bear a recognizable resemblance to what they are intended to represent, seems to be a lost art in America. *Au reste*, the publishers have done their work in an excellent manner.

A CLINICAL ATLAS OF VENEREAL AND SKIN DISEASES, INCLUDING DIAGNOSIS, PROGNOSIS AND TREATMENT. By ROBERT W. TAYLOR, A.M., M.D. Part III. Venereal Diseases. Part IV. Skin Diseases. Philadelphia: Lea Bros. & Co. 1888.

These numbers are a continuation of the work already favorably noticed in *THE JOURNAL AND EXAMINER*, and they sustain very well indeed the impressions which the earlier numbers produced. The text is clear, concise and comprehensive, and the style is evidently that of a master of the subject under consideration. The author declares his satisfaction with the established therapeutics of venereal diseases, and expresses a mild contempt for the new and ephemeral drugs which from time to time are candidates for favor. In this connection it is necessary to remember that the scope of the treatise is limited, as the title declares, and that in such a work elaborate theoretical discussions are out of place.

The colored plates in these two parts are open to the objection so frequently urged against all chromo-lithographic pictures of skin disease, too highly colored. They are, however, carefully drawn and well printed, and add to the value of the Atlas.

The general remarks with which the part treating of diseases of the skin opens, are excellent, and the position taken unfavorable to specialists who have not first been general practitioners of medicine for a number of years, expresses a growing sentiment in the profession.

It may seem ungracious to say anything unfavorable about a work which costs so much care, time and money as this, and yet one can hardly feel satisfied when, as in the article on *Tinea Favosa*, he is referred for particulars in regard to the parasite which causes the disease, to a handbook on skin diseases which not one practitioner in five hundred possesses or has access to.

The work of the publishers is worthy of their reputation.

LANDMARKS MEDICAL AND SURGICAL. By LUTHER HOLDEN, Ex-President of the Royal College of Surgeons of England, etc. Fourth edition. 8vo., pp. 79. Philadelphia: P. Blakiston, Son & Co. 1888. Chicago: W. T. Keener. Price, \$1.25.

The American editor of Gray's "Anatomy" has thought Holden's "Landmarks" of sufficient value to incorporate in that celebrated work on anatomy. In this fourth edition Mr. Holden wisely adheres to his decision not to introduce diagrams and cuts, since experience convinces him that they would frustrate his main object, which is to urge students to get the habit of making the eye and hand work together, and to educate the touch upon the living body. Without such special training no one can reasonably expect to form a correct diagnosis when called upon to examine an injury or detect a disease. This work is intended only for those that wish to acquire the habit recommended; to such we can heartily recommend the book.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES FOR THE FISCAL YEAR 1888. Washington: Government Printing Office. 1888.

This Report shows that for the fiscal year ending June 30th, 1888, 48,203 patients were relieved, 14,077 were treated in hospitals, 34,126 were treated in dispensaries, and 361,709 days' relief furnished in hospitals. The receipts from all sources were \$496,441.69, and the expenditures \$528,844.66, not including the expenses for "repairs and preservation of marine hospitals, fuel, lights, and water, furniture and repairs of furniture," etc., which were paid out of special appropriations.

In August, 1887, a bacteriological laboratory was established at the port of New York, and different animals are now kept on hand for experimental purposes. The Report recommends that the laboratory be removed to the National Capital.

The Report on the epidemic of yellow fever occupies a large number of pages, including

photographs of Camp Perry, of the Headquarters at Camp Perry, other photographs and a map of Jacksonville.

The most valuable portions of the Report are papers on "The Natural History of Yellow Fever," by Dr. John Guit  ras, an "Investigation into the Food Supply of Seamen," at Philadelphia, San Francisco, and New Orleans, by Drs. P. H. Bailhache, Henry W. Sawtelle, and Charles B. Goldsborough. These papers are deserving of careful study.

The Report contains also some interesting "Cases from Hospital Practice," and a large number of "Reports of Fatal Cases, with Necropsies."

PATHOLOGY AND TREATMENT OF DISPLACEMENTS OF THE UTERUS. By DR. B. S. SCHULTZE, Professor of Gyn  cology, Director of the Lying-in Institution, and of the Gyn  cological Clinic, in Jena. Translated from the German by JAMESON J. MACAN, M.A., M.R.C.S., Eng., etc., and edited by ARTHUR V. MACAN, M.B., M.Ch., etc., Master of the Rotunda Hospital, Dublin. 8vo., pp. xx, 378. With 120 illustrations. New York: D. Appleton & Co. 1888. Chicago: A. C. McClurg & Co. Price, \$3.50.

The original German edition of this work, which appeared some years ago, has done a great deal towards revolutionizing the opinions held as to the pathology and treatment of uterine displacements by most of the leading gynaecologists on the Continent. It will be remembered that the opinions expressed in the work by Professor Schultze met with very violent opposition; but this opposition, and time, has shown how accurate were the observations on which the opinions were based, and that there was but one thing to do—admit the truth of the deductions drawn.

Since the appearance of the German edition two improvements have been made in the treatment of displacements. In regard to the displacements that depend essentially on relaxation of the muscular attachments of the uterus—*e. g.*, in many cases of retroflexion and prolapse—Th  re Brandt has enriched our therapeutical knowledge by his method of uterine gymnastics. Secondly, for the retention of the uterus after reposition, the rings now used by Professor Schultze are made of pure celluloid instead of wire and india-rubber.

A noticeable feature of the book is a short summary at the end of each chapter.

No one can read this work without learning a great deal. Gynaecologists will buy it, of course; but the general practitioner should have it, because it was written for him.

THE VEST POCKET ANATOMIST. (Founded upon "Gray.") By C. HENRI LEONARD, A.M., M.D., etc. Fourteenth Revised edition; 198 illustrations. Containing Dissection Hints and Visceral Anatomy. 297 pages. Detroit: The Illustrated Medical Journal Co.

"Founded upon 'Gray'" means, we suppose, that this Vest Pocket Anatomist is based upon Gray's "Anatomy." The foundation, as compared with the superstructure, is enormously large. From the preface to the eleventh edition (printed in the fourteenth) we learn that the larger part of the work is simply "Gray" condensed and transposed. We notice that during the process of condensation and transposition the actions of muscles and of groups of muscles have disappeared from their proper places, and in the less than two pages and a half devoted to the subject they are not given properly. If students would take sufficient time to study medicine, and study in the proper manner, such books as this could never reach a second edition.

PRACTICAL ANATOMY; a Manual of Dissections. By CHRISTOPHER HEATH, F.R.C.S., etc. Seventh edition. Revised by RICKMAN J. GODLEE, M.S. Lond., F.R.C.S., etc. With 24 colored plates and 278 engravings on wood. 8vo., pp. xvi, 598. Philadelphia: P. Blakiston, Son & Co. 1888. Chicago: W. T. Keener. Price, \$5.00.

When a scientific work has reached its seventh edition it may be said to be practically beyond the adverse criticism of a reviewer, and to have no need of his praise. Suffice it to say, then, Mr. Godlee has made some important additions to the sections on the thorax and brain, that a few wood-cuts have been added to the book, and some old and worn illustrations have been cut. The colored plates, as formerly, are from Mac-lise's "Surgical Anatomy," and are very good. With this book to guide him the student should find dissection anything but an unpleasant task.

THE WATERS OF PLOMBIÈRES (Vosges). By DR. BOTTENTUIT, Médecin Consultant aux Eaux de Plombières; Ancien Interne des Hopitaux de Paris; Chevalier de la Legion d'Honneur, etc.. 8vo, pp. xvi.—134. London: J. & A. Churchill. 1888.

The waters of Plombières are very hot, and belong to the class of indifferent waters. Dr. Bottentuit describes the sources of these waters, and their physical and chemical properties. A chapter is devoted to a consideration of the baths, and another chapter to the indications and contra-indications to the use of the waters. Not only is full information given in regard to the

therapeutic action and value of the waters, but the little book is an interesting guide to the town of Plombières, which is situated in the rather picturesque Vosges country.

THE URINE AND COMMON POISONS. Memoranda, Chemical and Microscopical, for laboratory use. By J. W. HOLLAND, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Illustrated. Second edition, revised and much enlarged. Pp. 65. Philadelphia: P. Blakiston, Son & Co. 1888. Chicago: W. T. Keener. Price, 75 cents.

This is a very well arranged laboratory manual for teaching the rudiments of urine examination and toxicological examinations to students. It seems to be intended for laboratory use only, and for such purpose is very good; but it is insufficient for office use by the physician who wishes to make thorough analyses of urine.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. Third Session, held at Washington, D.C., September 18, 19, and 20, 1888. Volume III. 8vo, pp. xix.—404. Philadelphia: Printed for the Association. 1888. I. Minis Hays, M.D., Recorder.

An abstract report of the very interesting papers read at the third session of the Association of American Physicians has been printed already in *THE JOURNAL AND EXAMINER*. From the twenty-five papers read at the meeting it would seem invidious to select a few for discussion in this place. The list of papers includes three on typhoid fever, five on renal disease, and five on subjects relating to the heart. The volume is a credit to the Association of American Physicians.

BOOKS RECEIVED.

Essentials of Surgery. By Edward Martin, A.M., M.D.

Essentials of Anatomy. By Charles B. Nancrede, M.D.

Essentials of Medical Chemistry. By Lawrence Wolff, M.D.

Essentials of Obstetrics. By William Easterly Ashton, M.D.

The Waters of Plombières (Vosges). By Dr. Bottentuit.

Clinical Lectures on Albuminuria. By Thomas Grainger Stewart, M.D., Edin.

Clinical Atlas of Venereal and Skin Diseases. By Robert W. Taylor. Parts III and IV.

The Vest Pocket Anatomist. By C. Henri Leonard, M.D.

Transactions of the Association of American Physicians. Vol. III.

Pathology and Treatment of Displacements of the Uterus. By Dr. B. S. Schultze.

Guy's Hospital Reports. Vol. XLV. Edited by N. Davies-Colley, M.A., M.C., and W. Hale White, M.D.

Handbook of Materia Medica, Pharmacy, and Therapeutics. By Cuthbert Bowen, M.D., B.A.

Wood's Medical and Surgical Monographs. Volume I, Number 1: The Pedigree of Disease. By Jonathan Hutchinson, F.R.S.; Common Diseases of the Skin. By Robert M. Simon, M.D.; Varieties and Treatment of Bronchitis. By Dr. Ferrand. Number 2: Gonorrhœal Infection in Women. By William Japp Sinclair, M.A., M.D.; On Giddiness. By Thomas Grainger Stewart, M.D.; Albuminuria in Bright's Disease. By Dr. Pierre Jaenton.

PAMPHLETS RECEIVED.

Diseases of the Nose and Pharynx and their Treatment. By W. Cheatham, M.D.

Malaria and the Causation of Periodic Fever. By Henry B. Baker, M.D.

The Medical Bulletin Visiting List for 1889. F. A. Davis, Philadelphia.

The Philosophy of Memory. By D. T. Smith, M.D.

The President's Annual Address. By Robert Battey, M.D.

On the Circular Polarization of Certain Tartrate Solutions. I. By J. H. Long.

New Form of Posterior Colporrhaphy. By J. H. Kellogg, M.D.

Experimental Researches respecting the Relation of Dress to Pelvic Diseases in Women. By J. H. Kellogg, M.D.

Report of Forty-eight Cases of Alexander's Operation. By J. H. Kellogg, M.D.

The Etiology of Dipsomania. By Lewis D. Mason, M. D.

The Radical Cure of Hernia. By Morris H. Henry, M.A., M.D.

Extremes in Altitude in Southern California. By Walter Lindley, M.D.

Transactions of the American Otological Society. 1888. Vol. 4. Part 2.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1888.

Pulmonary Consumption considered as a Neurosis. By Thomas J. Mays, M.D.

Two Cases of Gunshot Wound of the Abdomen. By N. Senn, M.D.

Inflation of the Stomach with Hydrogen Gas in the Diagnosis of Wounds and Perforations of this Organ. By N. Senn, M.D.

The Failure of Dr. J. B. Thomas's Treatment of Urethral Stricture by Electrolysis. By Robert Newman, M.D.

Treatment of Peritonitis by Abdominal Section. By L. S. McMurtry, M.D.

Electricity vs. Tait, or the Use of Electricity in Inflammation as Found in Gynecology. By Geo. F. Hurlburt, M.D.

Case of Typhlitis, with Double Perforation of the Cæcum, and Peritonitis. By L. S. McMurtry, M.D.

Preliminary Report of an Operation for the Formation of an Artificial Pupil through the Sclerotic Coat of the Eyeball. By George Strawbridge, M.D.

The Influence which the Discovery of Cocaine has Exerted upon Ophthalmic Surgery. By Samuel Theobald, M.D.

Is Astigmatism a Factor in the Causation of Glaucoma? By Samuel Theobald, M.D.

The Histology and Surgical Treatment of Uterine Myoma. By Henry O. Marey, M.D.

The Climate of the Southern Appalachians. By Henry O. Marey, M.D.

Placental Development. By Henry O. Marey, M.D.

The Case of the Emperor Frederick. Reports of the German Physicians and by Sir Morell Mackenzie.

The Anatomy and Pathology of the Thymus Gland. By A. Jacobi, M.D.

How Microorganisms Enter the Body. By George N. Kreider, M.D.

Cases in Orthopædic Surgery. By Ap Morgan Vance, M.D.

Femoral Osteotomy for Correction of Deformity from Hip-joint Disease. By Ap Morgan Vance, M.D.

Osteotomy for Anterior Curves of the Legs. By DeForest Willard, M.D.

MISCELLANY.

The Naval Medical Examining Board—Is now in session at the U. S. Naval Hospital, Philadelphia, for the examination of candidates for admission into the Medical Corps of the Navy as Assistant Surgeons.

The Board will remain in Philadelphia until the 31st of March, 1889.

After the 1st of April, 1889, the Board will hold its sessions at the Naval Hospital, Brooklyn, N. Y.

There are fourteen vacancies in the grade of Assistant Surgeon.

Further information may be obtained by addressing the President of the Examining Board.

J. MILLS BROWNE,

Surgeon General, U. S. Navy.

NAVY DEPARTMENT,

BUREAU OF MEDICINE AND SURGERY,

Washington, D. C., Jan. 16, 1889.

Circular for the Information of Persons Desiring to Enter the Medical Corps of the U. S. Navy.—A candidate for examination and appointment in the Medical Corps of the Navy must be between 21 and 26 years of age, and must apply to the Honorable Secretary of the Navy for permission to appear before the Naval Medical Examining Board.

The application must be in the handwriting of the applicant, stating age and place of birth, also, the place and State of which he is a permanent resident; and must be accompanied by letters or certificates from persons of repute, testifying, from personal knowledge, to his good habits and moral character, and that he is a citizen of the United States.

FORM OF APPLICATION.

_____,
_____, 188

TO THE HONORABLE

SECRETARY OF THE NAVY,

Navy Department, Washington, D. C. :

SIR: I request permission to be examined for an appointment as Assistant Surgeon in the United States Navy.

I was born at —, and was — years of age on the — day of —, 188—, and am a citizen of the United States, residing in —, county of —, in the State of —.

I enclose herewith certificates as to moral character, habits and citizenship.

Very respectfully,

If, in reply to the above, the candidate receive a permit, he will notify the Presi-

dent of the Board of the fact, and request him to appoint a time for his examination.

Candidates will be expected to present to the Board testimonials of educational and professional fitness.

The Board is required, under oath, to report on the physical, mental, moral and professional qualifications of the candidate; so that the examinations are necessarily rigid and comprehensive, though simple and practical, and not beyond the attainments of any well-educated physician.

A successful candidate, upon the completion of his examination, will be notified by the President of the Board that he has been found qualified.

An applicant found "not qualified" may be allowed a second examination after one year, but not a third.

No allowance will be made for the expenses of persons undergoing examination, which, if uninterrupted, is usually completed within a week.

Appointments will be made as vacancies occur, and in the order of merit reported by the Board, but a qualified candidate, not appointed within a year, must be re-examined.

The officers of the Medical Staff of the Navy are as follows: Medical Directors, Medical Inspectors, Surgeons, Passed Assistant Surgeons and Assistant Surgeons.

Vacancies in these grades (by death, or retirement at the age of sixty-two years) are filled in the order of seniority, and for each step of promotion a physical and professional examination is required by law.

The pay of an Assistant Surgeon in the Navy is \$1,000 per annum "on leave or waiting orders," \$1,400 "on shore duty," \$1,700 "at sea," and, when at sea, one ration at 30 cents per diem in addition.

Eight cents a mile is the allowance when traveling under orders.

ORDER OF EXAMINATION.

1. Physical. 2. Written. 3. Oral.
4. Clinical. 5. Practical.

The Physical examination will be very thorough, and the candidate will be required to certify, under oath, that he is free from any mental, physical or constitutional defects, hereditary taint, or disability of any kind that would be liable to interfere with the efficient performance of duty.

Written examination.—The candidate will be required to address a letter to the Board of Examiners, stating concisely—

1. The date and place of his birth; the school, institution, or college at which he received his general education; the several branches studied, including his knowledge of general literature, and of the ancient and modern languages; the exact title of the medical school or schools at which he received instruction, and, if an Alumnus, the date of his graduation; the name and place of residence of his preceptor, and the time when he commenced the study of medicine; also, the title of the text-books studied or read on Chemistry, Anatomy, Physiology, Histology, Materia Medica, Pharmacy, Therapeutics, Theory and Practice of Medicine, Principles and Practice of Surgery, Minor Surgery or Mechanical Therapeutics, Medical Jurisprudence, Toxicology, Obstetrics, Hygiene, Biology and Physics.

2. The opportunities he has had of engaging in the practice of medicine, surgery and obstetrics, or of receiving clinical instruction; or whether he has or has not been a resident physician or interne in a civil or military hospital.

3. The number of subjects or parts of subjects he has dissected; what opportunity he has had to become familiar with minor surgery and bandaging, chemical and pharmaceutical manipulations, and the physical properties of drugs.

The candidate will append to this letter his name in full, post-office address, and his local address at the date of the examination.

A *thesis* or *short essay* must next be written (without reference to notes or books)

upon some professional or scientific subject indicated by the Board.

Written answers will then be required to twelve or more questions, propounded by the Board, on the following subjects:

Anatomy, Histology, Physiology, Surgery, Theory and Practice of Medicine, Obstetrics, Materia Medica, Chemistry, Hygiene, Medical Jurisprudence, Toxicology and Physics.

Oral examination.—The candidate will be examined orally upon his literary and scientific acquirements, including general history, natural science and English literature, and professionally upon Anatomy, (general, special and surgical), Histology, Physiology, Theory and Practice of Medicine, Principles and Practice of Surgery, Chemistry, Legal Medicine, Toxicology, Materia Medica, Therapeutics, Pharmacy, Obstetrics and Diseases of Women and Children, Hygiene, Microscopy and Physics.

Candidates possessing special knowledge of the higher Mathematics, Astronomy, Geology, Botany, Zoology, Literature, Art and Ancient and Modern Languages, will be given full credit for their proficiency.

The Clinical examination of patients will be made by the candidate at a Naval Hospital, and will include the use of the Microscope, Thermometer, Laryngoscope, Ophthalmoscope and other aids to physical diagnosis; after which he will be required to submit a written clinical report on one or more medical or surgical cases.

The practical examination will comprise surgical operation on the cadaver, the application of splints, bandages and surgical dressings, the use of the microscope (for clinical purposes, and the recognition of pathological or other specimens) and chemical and pharmaceutical manipulations.

A candidate may withdraw at any period of the examination, with the consent of the Board, and may at a future time present himself for re-examination.

The Board may conclude the examination—written, oral or practical—at any time,

and may deviate from this general plan in such manner as it may deem best to insure the interests of the naval service.

WILLIAM C. WHITNEY,
Secretary of the Navy.

Illinois State Board of Health.—Since the Board has been somewhat roundly abused, and misrepresented, by some of the newspapers in Illinois and other states, the following, taken from the recent message of (now) EX-GOVERNOR RICHARD J. OGLESBY, is of no little interest:

“The intelligent and faithful discharge of the duties imposed by law upon the State Board of Health, and the benefits which accrue therefrom to the commonwealth, sufficiently attest the wisdom of the Legislature in the creation of this organization. From the vast field covered by its labors it is only possible, in this connection, to single out for mention a few of its most important works. It is charged by the constituting act with the supervision of the interests of the life and health of the citizens of the State, and to this end, the Board has addressed its efforts more particularly to the limitation and—so far as is practicable—to the prevention of epidemics of contagious and infectious diseases.

“It is a matter of record—a fact which I understand has now passed into the authentic history of epidemics in this country—that the labors of the Board in this direction resulted in a saving of nearly \$3,500,000 to the people of the State in 1881 and 1882, when small-pox was epidemic. Through the preventive and protective measures then established and since enforced, there has been no repetition of that disease in an epidemic form.

“The wise and intelligent policy of the Board on the subject of quarantine has been of great value to the material interests, not only of Illinois, but of the whole Mississippi Valley. While vigilantly guarding against the introduction and spread of the dangerous, contagious and infectious

diseases, it secures the least interference with commerce and travel, and so averts unfounded panics and prevents loss and interruption of business and industry. During the past few months a striking illustration of the value of this policy was afforded by the action of the worthy Secretary of the Board, who refused to sanction any expenditure of money from the public treasury in the maintenance of quarantine restrictions, which his wide and varied experience and scientific knowledge enabled him to pronounce unnecessary for the State. His firmness in this instance alone prevented the loss of thousands of dollars, besides great inconvenience to travelers and vexatious interference with business; and the example thus set materially helped to check the ruinous and needless quarantine enforced in other States.”

The Governor then speaks of the sanitary survey of the State, begun in 1883 and still in progress; of the careful analyses now being made of the water-supply of the State; and of the benefits that have accrued from the enforcement of the Medical Practice Act.

Consumptives and Long Sea Voyages.—

Dr. J. De Burgh Griffith, Physician to Melbourne Hospital, says in *The British Medical Journal* of February 9th: It is customary with English and Irish physicians to recommend long sea voyages to phthisical patients, and frequently prescribe a voyage by sailing vessel to Australia. In theory this is excellent advice—ozone, sea air, bright sky, warm weather all the voyage; but in practice it is very different. My personal experience of sea voyages and my position at the Antipodes enable me to speak with some knowledge of the effects of a sailing-ship voyage on delicate people, and I feel quite sure that medical men do not know what they are advising when they recommend patients in advanced phthisis to come to Australia in a sailing ship.

Land folks appear to think that an Australian voyage is all sunshine and warm weather. This may be true of part of the passage; but it is a small part. The time in the English Channel alone is often enough to murder any but seasoned seamen; then in "running down the Easting," in lat. 39°, 40°, 41° South, cold, dark, wintry weather and snow are frequently met with. The food is inferior, fresh vegetables are not procurable, and there are usually no comforts sufficient for delicate people—no saloon fire, no hot water at night, and, if clothing gets wet, there is no means of drying it except on deck.

In a well-appointed passenger steamship all this is quite different. If delicate people are ordered to Australia, I venture to suggest that a more careful selection of cases should be made, and none sent out who are far advanced in phthisis, or who do not present a fair chance of recovery. Patients with serious lung disease and a rapid downward tendency should never be sent from home. It is much more merciful to allow these poor things to die amongst their own people than to be sent abroad to die with strangers in a strange land.

For a certain class of phthisical people I have no hesitation in recommending a sea voyage and residence in Australia; but if any good is to be derived, the passage must be made in a well appointed steamship and not in a sailing cargo vessel. There is plenty of choice in either case. Choose some of the grand steamships trading regularly with Australia. If it be summer time, or the hot season in the Red Sea, I recommend the Cape route direct to Melbourne.

Royal Academie of Sciences of Turin. The Bressa Prize.—The Royal Academy of Sciences of Turin, in accordance with the last will and testament of Dr. Cesare Alessandro Bressa, and in conformity with the programme published December 7th, 1876, announces that the term for competition for

scientific works and discoveries made in the four previous years 1885-88, to which only Italian authors and inventors were entitled, was closed on December 31st, 1888.

The academy now gives notice that from the 1st of January, 1887, the new term for competition for the seventh Bressa prize has begun, to which, according to the testator's will, scientific men and inventors of all nations will be admitted. A prize will therefore be given to the scientific author or inventor, whatever be his nationality, who during the years 1887-90, "according to the judgment of the Royal Academy of Sciences of Turin, shall have made the most important and useful discovery, or published the most valuable work on physical and experimental science, natural history, mathematics, chemistry, physiology and pathology, as well as geology, history, geography and statistics."

The term will be closed at the end of December, 1890.

The value of the prize amounts to 12,000 Italian lire.

The prize will in no case be given to any of the National members of the Academy of Turin, resident or non-resident.—*A. Genocchi, President of the Royal Academy; A. Naccari, Secretary of the committee.*

Turin, January 1st, 1889.

The Director of the Statistical Bureau of the Hungarian Academy of Sciences states that from his researches in the statistics of 24,000 cases he draws the following conclusions: Children of fathers between 25 and 40 years of age are the healthiest, those of fathers under 25 are weak, and those of fathers over 40 are weaker. In regard to the mothers: Children born before the 35th year of the mother's life are strongest; those born between the 35th and 40th year of the mother's life are about 8 per cent., and those born after the mother is 40 are about 10 per cent., weaker. Children of parents near the same age are weaker than children of older fathers and

younger mothers. But if a woman has already arrived at from 30 to 35 years, it is better for the children that she marry a man between 20 and 30.

Shock in Relation to Dental Operations.

—This subject, which has received but little attention, though of considerable importance, was brought forward by Dr. Trueman in an able paper at the Odontological Society of Pennsylvania at the November meeting. Under this heading he included not merely the collapse which may follow an operation or extreme emotion, but the lesser yet more prolonged depression of the mental powers and the circulatory system. To illustrate the importance of the matter he quotes a case occurring in Dr. Black's practice. A young lady at her own urgent request had three hours' continuous operation, some part of which was intensely painful. She was then dismissed for a couple of hours and returned promptly. After about another hour evidences of collapse appeared and the operations were suspended. On the route home she became worse, and remained in a "stupid condition" for four or five days, after which she passed into a nervous fever for several months. This is doubtless an exceptional and extreme case; but all dentists know of cases, by no means infrequent, of persons exhibiting great weakness and depression after prolonged dental operations. The craze for enormous gold operations, taking five or six hours' continuous sitting, has, Dr. Trueman hopes, passed by, and he advocates that an operation should not last more than two hours, and that an interval of several days should elapse before another is undertaken, so as to minimize as much as possible the effects of the resulting nervous strain. Referring to the shock caused by extractions, he says the shortness of the operation may lead some to regard it as of little moment. A few favored individuals will sit down and have a tooth drawn with the greatest

equanimity, but as a rule there is great mental strain in advance, and great shock during the operation, and he condemns the practice of removing a large number of teeth at one sitting. Discussing the profession of dentistry as a calling, he considers it one of the most trying. Standing for hours, it is an unbroken effort of the mental and physical powers of the operator in almost constant conflict with similar disturbed relations of the patient; meeting all sorts and conditions of men, women and children—the women all nerves, the men all impatience, and the children all frightened,—it is not to be wondered at that many fall away from the ranks in comparatively early life. This is perhaps rather a gloomy view of the matter, but there is a great deal of truth in it.—*Lancet*, Feb. 9, 1889.

Salicylic Acid as a Diuretic.—After a series of investigations on this subject, HUBER concludes that salicylic acid is one of the safest and most important diuretics. The greatest increase in the amount of urine seems to occur in rheumatic fever and serous pleurisy, whether the temperature is raised or not. In all cases the total loss of water by the skin and urine was increased, and the solids of the urine were increased. In ordinary pleurisy, and in four cases of cardiac dropsy the drug acted well.

Effect of Tobacco-Smoke on Micro-Organisms.—Dr. Vincenzo Tassinari, assistant at the hygienic institute of the University of Pisa, publishes some interesting experiments with tobacco smoke on various pathogenic and non-pathogenic organisms. The duration of the fumigations varied from thirty to thirty-five minutes, and the quantity of tobacco consumed amounted to from $3\frac{1}{2}$ to $4\frac{1}{2}$ grammes. It was shown that tobacco smoke possesses the property of retarding the development of some pathogenic bacteria and preventing the growth of others. Thus the smoke

from a large Virginia cigar retarded the development of the bacterium *pradigiosus* for seventy-two hours, of the *staphylococcus aureus* for seventy-three hours, and of the anthrax bacillus for ninety-seven hours. No development of colonies of the spirillæ of Asiatic cholera and anthrax, and of the bacilli of typhus and pneumonia was observed after from a hundred and twenty-eight to a hundred and sixty-eight hours. The author regards these results as due to the chemical action of the ingredients of tobacco-smoke.

A Bullet in the Chest for Thirteen Years.

—DR. R. C. Macdonald recently removed a rifle bullet from a man which had been in the chest for thirteen years. The case is chiefly remarkable from the fact that the bullet had remained in the pleural cavity for so long a time without setting up pleurisy. It entered the back of the shoulder immediately below the spine of the scapula, and probably entered the pleural cavity by penetrating the intercostal muscles. The operation was performed with antiseptic precautions, and the wound soon healed. A splinter had been removed from the wound of entrance some months after the accident, which occurred to the man whilst marking at a rifle range in Beith. The bullet had gravitated to the lower part of the chest.—*The Lancet*.

Medical and Surgical Register of the United States.

—Messrs. R. L. Polk and Company, publishers of the "Medical and Surgical Register of the United States," announce that they have now in preparation the second edition of the "Register," which affords a convenient opportunity to the medical profession of the country to secure the best directory of the physicians of the United States that has ever been published, and with it much valuable information concerning medical matters, not given elsewhere in any single work. The publishers have

offices in Detroit, Chicago, Baltimore, Atlanta, St. Paul, Minneapolis, Indianapolis, St. Louis, Toronto, and Portland, Oregon.

For What are Doctors Paid?—An English judge has recently given a decision containing a great deal of common sense. A local surgeon sued the executor of a deceased farmer for an amount for consultations. The deceased could not take any medicine. The judge, in giving his decision, said: "Many people of a better class hold the idea that it is medicine doctors are paid for. It is for skill."

Treatment of Hysterical Vomiting.—EWALD recommends the following:

Hydrochlorate of morphine .020 centig.

Hydrochlorate of cocaine . . . 0.30 centig.

Tincture of belladonna 5 grains.

Cherry-laurel water 25 grains.

S. Take 10 or 15 drops every hour, till the vomiting ceases.

Dr. Emile Dubois-Reymond celebrated his 70th birthday on November 7th. He is the son of a watchmaker, and began his scientific studies at Bonn in 1838. Johannes Müller first gave his thoughts the direction in which he has done so much brilliant work, and when Müller died he was succeeded in the chair of Physiology at Berlin by Dubois-Reymond.

Blisters in Heart-Disease.—JACOND has recently called attention to the dangers of blistering in cardiac disease in cases in which the urine contains albumen, even the smallest trace. Cantharides should be absolutely proscribed in these cases, and iodine used if such counter-irritation be thought necessary.

Animal Vaccination in France.—The French Home Minister has presented 8,000 francs (\$1,600) to the Académie de Médecine, for the encouragement of animal vaccination.

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EXPERIMENTS TO DETERMINE THE ANTI-SEPTIC VALUE OF BORIC ACID.

BY EDMUND ANDREWS, M.D., LL.D.

PROFESSOR OF CLINICAL SURGERY IN THE CHICAGO MEDICAL COLLEGE.

The real antiseptic value of boric acid has been a subject of considerable dispute. Owing to the objectionable odor of iodoform, and its irritant effect on the skin, many have tried to substitute boric acid in its place. The published reports about the latter are very conflicting. Some assign to it decided antiseptic virtues, while others claim, on the basis of experiments, that it is not antiseptic at all, and that bacteria will flourish in a saturated solution of it. Curiously enough both these contradictory assertions are in some sense true. Boric acid is so decidedly anti-putrefactive that it is constantly sold and successfully used to preserve fresh meat for market, and a piece of muscular tissue immersed in a saturated solution of it will remain free from odor or softening for weeks, and, probably, for years; yet in that same solution a few living micrococci may sometimes be found, and at least one species of mycelium sprouts freely on the immersed muscular specimen. As boric acid on account of its cleanliness, its freedom from odor, and its absolute safety, is very convenient for extemporaneous use, I have made the following experiments with solu-

tions of it prepared with the hydrant water from Lake Michigan, just as one would find it convenient to do in visiting patients in any of the Lake Shore towns. The water of the streams and wells of adjacent regions does not differ enough from that of Lake Michigan to materially change the results.

It will be noticed that while others allege that they have found the micrococci living in saturated solutions, I was unable to discover any in solutions stronger than one per centum. A saturated solution of boric acid in the water of Lake Michigan at the temperature of 70° Fah., contains about 4 per centum of the acid. The experiments were made in six-ounce bottles of water containing the respective percentages of boric acid mentioned at the head of the columns.

In each bottle was suspended about two drams of fresh pork muscle. Bottle No. 1 contained simple hydrant water; No. 2, one per centum solution of boric acid; No. 3, two per centum solution; No. 4, three per centum solution; No. 5, a saturated solution; No. 6, a solution of what is called *glycerol* of boro-glyceride, that is to say, the solution experimented on contained 4 per centum of boric acid, 12 per centum of glycerine, and 84 per centum of water.

From these experiments it is evident that the saturated solution of boric acid in

ordinary use among us is abundantly antiseptic, so far as preventing putrefaction is concerned, but that it does not prevent the growth of mycelium of, at least, some species, and probably does not prevent the development of every species of bacteria and micrococci. We may conclude, therefore, that while boric acid, in all probability, is a good antiseptic for practical purposes, we have not a certainty that every injurious microorganism will be destroyed by it. In

article by Dr. Joseph Zeissler, of this city.¹

It will be observed that in the sixth experiment the presence of glycerine seemed to increase the efficiency, so that even the mycelium did not appear. My final conclusion is that for a multitude of purposes boric acid is a very valuable article and convenient for use on account of its cleanliness, freedom from odor, and the total absence of any caustic or irritant qualities, but that in the present state of our knowl-

TABLE OF EXPERIMENTS to determine the antiseptic value of Boric Acid by suspending two drachms of fresh muscle in extemporaneous solutions of the Acid in Lake Michigan hydrant water—six ounces to each bottle.

Days.	Experiment No. 1. Hydrant water alone.	Exp. No. 2. One per cent. of Boric Acid.	Exp. No. 3. Two per cent. of Boric Acid.	Exp. No. 4. Three per cent. of Boric Acid.	Exp. No. 5. Saturated solution Boric Acid.	Exp. No. 6. Boric acid 4 pr. ct. Glycerine 12 " " Water 84 " "
1	Solution turbid.	Meat blanched; solution clear; no smell.	Meat blanched; solution clear; no smell.	Meat blanched; solution clear; no smell.	Meat blanched; solution clear; no smell.	Meat blanched; solution clear; no smell.
2	Decidedly putrid.	Slightly turbid; no smell.	ditto.	ditto.	ditto.	ditto.
3		More turbid; mycelium on the meat; no smell.	"	"	"	"
4		No smell; mycelium growing; moving micrococci.	No smell; mycelium appearing; no micrococci.	Mycelium appears; no smell; no micrococci.	Mycelium appeared as in preceding experiment.	"
5		ditto.	ditto.	ditto.	ditto.	"
6		"	"	"	"	"
7		"	"	"	"	"
8		"	"	"	"	"
9		"	"	"	"	"
10		"	"	"	"	"
11		"	"	"	"	"
12		Swimming micrococci; mycelium abundant; no smell; meat firm.	No micrococci; abundant mycelium; no smell; meat firm.	No micrococci; abundant mycelium; no smell; meat firm.	No micrococci; abundant mycelium; no smell; meat firm.	No micrococci; no mycelium; no smell; meat firm; many boro-glyceride crystals at bottom of bottle.

short, it lacks the all-conquering energy of the corrosive sublimate solutions. We may conclude with reasonable certainty that, used in a dry form to pack foul ulcers and septic wounds, it will be of decided value on account of not only its antiseptic power, but also its freedom from any caustic or irritating qualities. Decided power is assigned to it when packed into the urethra in dry form to arrest recent attacks of gonorrhœa, as detailed in a recent

edge it is not safe to rely upon it exclusively in cases which demand the most decisive and energetic antiseptic qualities. In short, where life is at stake, and may be dependent, to a great extent, on the energy of the antiseptic, it is better at present not to repose too implicit a confidence in boric acid.

6 SIXTEENTH STREET.

¹ Zeissler: A Novel Method of Treating Gonorrhœa. Western Medical Reporter, Jan., 1889.

THE DETECTION OF THE BACILLUS TUBERCULOSIS.¹

BY FRANK BILLINGS, M.D.

The form of the bacillus tuberculosis is not characteristic and it cannot, therefore, be differentiated from other pathogenic and non-pathogenic bacteria by its form alone. It is a very thin bacillus, about two to five micromillimetres in length (from one-fourth to one-half the diameter of a red blood-corpuscle). It is usually slightly bent.

Like all protoplasmic cells it has an affinity for the aniline colors, and its reaction to these colors is characteristic when the aniline is combined with a mordant.

To elicit the characteristic reaction of the bacillus to the aniline colors it is necessary to proceed in a methodical manner: The instruments used, forceps, needles, etc., should be clean, sterilized by heating in a gas or other flame. The cover glasses and slides should be cleaned in fine alcohol.

The material supposed to contain the bacilli should be collected in a clean vessel, and when collected should be protected from contamination by the air, etc.

The material should be spread in a very thin layer upon a cover glass, by means of a needle or by placing a small amount upon one glass and then pressing another cover glass upon the first, thus making a thin layer upon two cover glasses. The thin film is then allowed to dry upon the cover glass, or the drying may be hastened by warming it over a gas flame. Then, when dry, by passing the cover glass quickly two or three times through the flame, the albumin usually present in the medium fixes the film upon the glass.

The cover glass is now ready for the aniline dye. One may use any color, but aniline violet, methyl blue, or fuchsin is usually employed. Fuchsin is the most often used, because its bright red renders the bacilli more prominent to most observers; and too, one may use with it, better

than with the other colors, a contrast color for the ground substance on the cover glass.

The color used must be combined with a mordant, which so fixes it in the bacillus of tuberculosis as to render it very much less susceptible to the bleaching effects of the mineral acids, while it does not so affect other bacteria, with but two exceptions, which I shall mention later.

There are several substances that may be used as a mordant; aniline water, carbolic acid, tannic acid, and others. Aniline water was first used and is still by some, but the mordant now in common use and the one used by Professor Koch, is carbolic acid. It has the advantage over aniline water that a solution of it with the color may be kept indefinitely, while the aniline water solution must be made each time it is used.

The following solution of fuchsin (Ziehl & Neelson) is a satisfactory one in every way:

Take of Fuchsin	1 part
Acidi carbolic.	5 parts
Alcoholis.	10 parts
Aquæ destillatæ.	100 parts

Mix in the order given. A few drops of the staining fluid are placed upon the cover glass, held in a forceps with the film upwards over a gas or alcohol lamp. Bunsen's flame, until the solution boils or gives off steam. It is then washed in water and is ready for the process of bleaching.

For bleaching, any of the mineral acids may be used. A twenty-five to thirty-three per centum watery solution of hydrochloric, nitric or sulphuric acid is used. Koch prefers nitric acid; his laboratory assistant uses sulphuric, while at Vienna hydrochloric is chiefly used. It is probably immaterial which acid is employed.

The stained cover glass is immersed in the acid solution for a moment, then in a seventy per centum water solution of alcohol, and finally washed in water. The immersion in acid, alcohol and water suc-

¹ Read before the Chicago Medical Society on February 18.

cessively being repeated until the color is almost or quite bleached. This process leaves the bacillus tuberculosis colored red while the ground substance and all other bacteria, with the two exceptions mentioned, are bleached. The mordant used enables the bacilli of tuberculosis to retain the color. Too long immersion in the acid will also overcome the action of the mordant and render the examination nil. The cover glass should be finally thoroughly washed in water to remove all acid, otherwise the slight amount of acid remaining will gradually fade the color and in a few months the preparation will become worthless.

The cover glass may now be mounted on a slide in water or glycerine, or, after drying, in Canada balsam. One may, however, use a contrast color,—such as methyl blue for the ground work. It is only necessary to float the cover glass, with the film downward, upon a one to two per centum watery solution of the methyl blue for five minutes. The excess of blue color is washed off with water, the cover glass dried and mounted. The bacilli of tuberculosis will be seen stained red and other elements will be blue.

For tissue containing the bacilli it is necessary to immerse the sections for from twelve to twenty-four hours in the fuchsin solution. They are then decolorized by immersion in the acid solution, the alcohol, etc., until only a faint redness remains. The sections are then dehydrated in alcohol and cleared up in oil of cloves. When mounted the bacilli are seen red, the tissue decolorized. The methyl blue may be used as a contrast color, also, for sections.

To easily detect the bacilli so prepared, one should have a microscope magnifying at least 450 diameters; however, the bacilli may be seen with a less powerful glass. An ordinary stand and substage will do for cover glass preparations, but an Abbé substage condenser is a decided aid to the discovery of the bacilli in cover glass preparations, and it is absolutely necessary in examining sections.

The discovery of the bacillus tuberculosis in the excretions, secretions or exudates examined is positively diagnostic of a tubercular disease. When it cannot be detected its absence is not of much diagnostic value, for it may be present in such small numbers as to render its detection difficult or impossible. When it is not found readily, repeated examinations of material collected on different days must be made to make its absence of any importance as a negative sign.

The bacillus is most easily detected in the sputa of tuberculosis pulmonum. It is most difficult to detect it in the blood, even in cases of acute general tuberculosis.

It is not usually difficult, as a rule, to detect it in the exudates into serous cavities; as in tubercular pleuritis, tubercular peritonitis and tubercular synovitis. I have found the bacillus in the contents of a distended fallopian tube.

In tubercular disease of bone it is usually present in the cheesy infiltrate, but it is difficult to find it in the pus from sinuses in tubercular disease of bone.

It is difficult to detect the bacillus in the urine because of the bulk and the decomposing effect it has on the bacillus. *Then the preputial and labial smegma bacillus* gives the same color reaction as the tubercle bacillus, and its form is so nearly like the bacillus of tuberculosis that it cannot be differentiated from it, with the microscope. The presence, therefore, of a bacillus in secretions from the genitals, giving the color reaction and presenting the form of the bacillus tuberculosis, is not here, as it is elsewhere, a positive sign of tuberculosis.

In tubercular disease of the skin and mucous membranes the secretion therefrom sometimes contains the bacillus. Sections made from tissue taken from tubercular ulcers usually yield the bacillus.

The bacillus of leprosy is nearly like the tubercle bacillus in form, and it gives the same color reaction. The clinical course

of leprosy is so distinct, and the disease so rare in this climate that it is not difficult to exclude it when considering a tubercular disease.

235 STATE STREET.

REPORT OF A CASE OF TRANSPLANTATION OF SKIN FOR THE CURE OF ECTROPIUM.¹

BY H. GRADLE, M.D.

The young lady whom I wish to exhibit to you to-night, in order to show the result of an ectropium operation, has had ectropium of the lower lid of the eye since her childhood, due at that time to some form of ulceration, probably lupus. Ten years ago some form of operation was performed without beneficial result. When first seen the lower lid was everted throughout almost its entire extent, the conjunctiva exposed, and, of course, in an abnormal and irritated condition. The scar underneath the lower lid, extending externally to the external canthus, had pulled the skin of the lid down and had caused it to adhere to the inferior rim of the orbit.

On September 24, 1888, I made the usual form of ectropium operation by cutting through the skin in a line parallel to the ciliary border and some three millimeters below it, and liberating it from the scar by undermining until the lid could be replaced satisfactorily. Into the gaping wound I then transplanted a pediculated flap taken from the healthy skin on the malar prominence immediately adjoining the external canthus of the eye. The flap was some twelve to fifteen millimeters wide, but, of course, shrunk at once so as seem about right for the width of the wound, which varied from eight to ten millimeters. The flap was attached by means of three silk sutures, while the wound left by the transposition of the flap was united by a continuous catgut suture. The operation was done under strictly antiseptic precautions.

On removing the dressing, four days later, complete union was noticeable, but two days subsequently the epithelium of the flap began to peel off at its distal extremity and the entire transplanted flap changed into an ulcerated surface without extension of the ulceration below the papillary layer. Within some ten days the ulceration had healed, but the scar shrunk again to such an extent that the result of the operation was not nearly as satisfactory as anticipated, although there was quite an improvement over the previous condition.

The attempt to prevent a downward pulling of the lid by applying adhesive plasters traction between the forehead and the cheek for some weeks gave no satisfactory result.

December 4th I repeated the operation, liberating the skin by transverse incision following the edge of the lower lid about two millimeters from the insertion of the cilia, and dissecting the lower lid away from the cicatrix until it resumed its place to a normal extent. In order to fill up the resulting gaping wound, I took a flap this time from the skin of the forearm—of course, without pedicle. As recommended by Wolfe and by E. Meyer, after having antiseptised the arm, a flap considerably larger than the gaping wound was transfixed with a Græfe's cataract knife, and nearly, not but quite completely cut off. A strip of adhesive plaster (gold-beater's skin) was then attached to the flap and the latter cut off entirely and placed on the wound of the eye-lid, where the overlapping adhesive plaster retained it in position without the necessity of sutures.

On the fourth day the dressing was changed and complete union was found. Within the next five days a narrow strip along the inferior border of the transplanted flap became mummified, evidently because it overlapped the healthy skin. When this was detached no ulcerating surface could be seen underneath. The result was therefore a complete success.

¹ Read before the Chicago Medical Society, February 27.

Within the last two months a very slight retraction has again occurred, but not to an extent requiring any further interference.

63 STATE STREET.

EXTRACTS AND ABSTRACTS.

Transplantation of Testis from Perineum.

—An interesting case is reported from the Hospital for Sick Children, London, and which came under the care of MR. EDMUND OWEN. He says:

The condition of malposition of the testis in this case is of considerable rarity, known as ectopia perinaealis, one of the varieties of ectopia testis, the other being ectopia cruralis, in which the testis has left the abdominal cavity by the crural ring. It is usually the left testis which is displaced into the perineum, but the right may be in this abnormal position. Hutchinson met with a case in which both were so displaced, but this is the only one on record. The condition is diagnosed early in life, as it is usually congenital. Godard, however, recorded an instance of its descent at the age of twenty-five. Most of the other instances in which a late descent (or dislocation) has been supposed to have occurred are doubtful, as in the case of the soldier, aged twenty-four, on whom Partridge operated. It has, however, been unexpectedly met with by Ricord when epididymitis had set in, and by Zeis, who was about to perform lithotomy on a boy of fifteen. The cause of the malposition of the organ has been ascribed to irregularity in the attachment of the gubernaculum testis; in more than one of the cases it has been felt as the retaining-band; in others, this band has been seen at the operation for reposition and described as the gubernaculum. Symptoms referable to its presence in the perineum are usually the result of injury; but, as in Annandale's case, pain may be caused by walking or running, or, again, by sitting, and more especially by riding. Attempts to replace it in the

scrotum by other than operative measures have usually proved abortive, and, as it is frequently well developed, it is not advisable to perform castration unless it be associated with congenital hernia, as in the case operated on by Surgeon Flanagan at Mhow, or on failure of the operation for reposition. The earlier operations for replacement were unsuccessful. Curling, in the case of a child, used wire sutures and a pad over the perineal sac; he found the testis difficult to transplant; suppuration followed, and the patient died at the end of a fortnight, from exhaustion and diarrhoea. Adams, who attended a child (aged eleven weeks) at home after operation, lost his case from erysipelas and phlebitis fourteen days later; inflammation extending along the funicular process. He secured the testis in the scrotum by means of a catgut stitch through the cut gubernaculum. Partridge, in the case of the soldier already referred to, used deeply placed subcutaneous sutures and applied a pad to the perineum. As a result of a consideration of the causes of failure in his case, Adams made certain suggestions, recommending that a child should be permitted to attain the age of two or three, and that the testis should be secured in the scrotum by means of sutures. The employment of the antiseptic treatment has been most successful. Marshall, in a boy of sixteen, tied the testis to the lowest part of the scrotum by means of a catgut stitch, and used antiseptic gauze; this case was successful. So was the operation when done by Annandale at an earlier period in a boy aged three years; a catgut stitch was passed through the testis and bottom of the scrotum, and antiseptic treatment employed. The success attained by Annandale and Marshall and in the following case will doubtless be imitated in the future, now that the principles of the operation are more fully recognized. Some years ago Mr. Owen brought forward the case of an infant with displaced right tes-

tis in which he did not recommend operative treatment. There are various questions of further interest suggested by the following case, such as the question of malignant disease in misplaced or undescended testicles, into which we have not space to enter. For the following reports we are indebted to Mr. R. C. Priestley, M.A., registrar.

CASE 1. *Transplantation of testis*.—L. C—, aged two years and seven months, was admitted on September 28th, 1888. The child is small for his age, and is unable to talk, but his limbs and head are well formed. On examining the genital organs, the right testicle was found well developed, and in the usual situation; the left testicle was also of normal size, but was situated in the perineum, to the left of the median raphe; the cord of the left testicle was apparently as long as that of the right, as the two organs were on a level with each other. The left half of the scrotum was small, and drawn over to the right side. On Oct. 3rd, Mr. Owen made an incision over the left half of the scrotum, through which the misplaced testicle was reached, and freed from adhesions. There was no difficulty in placing the gland in the scrotum; but, as it obstinately slipped back into its original position, a deep suture was passed from one side of the left scrotum to the other, behind the testicle, which effectually maintained it in its new position. The edges of the wound were drawn together by a continuous suture, and drainage was provided for by a narrow piece of tissue inserted at the lower angle of the wound. The wound united readily, except at one spot, where a very small slough separated, and when the child quitted the hospital, a fortnight later, the left testicle appeared quite natural. The child has since been inspected, and the result of the operation has, apparently, left nothing to be desired.

It not infrequently happens that a testis which has failed to complete its descent, or

has wandered into the groin or perineum, is imperfectly developed. In such cases it is a question whether it is deserving of surgical attention—that is, with a view to transplantation. If it be a fact, as some maintain, that the imperfectly developed gland is specially prone to malignant disease, it would, no doubt, be advisable to remove it without delay. And if, on the other hand, it is associated, as I have sometimes noticed, with a reducible inguinal hernia, ablation should also be practiced, so that the inguinal canal can be scarcely blockaded. It would be on merely sentimental grounds that, in such circumstances, any desire were felt for its preservation. But, given a healthy child with a well-developed and wandering testis, a simple operation such as that described above is not only justifiable, but, for every reason, expedient. As regards the nævus, I do not think that any other method of treatment could have given so prompt and thorough a result. Had it been treated by the old method of transfixation and ligature, the infant would not improbably have sunk exhausted on account of pain and suppuration. Moreover, the deepest parts of the mass could not have been destroyed by this means. Electrolysis could scarcely have dealt with it in less than three operations. In removing a nævus by the scalpel, it is necessary to keep well beyond the nodules of vascular fat which surround the spongy and growing mass. Then, with plenty of pairs of catch-forceps, the whole of the tumor can be cleanly removed without hæmorrhage or shock: and, as regards the operator, without anxiety or apprehension. —*The Lancet*, Feb. 9, 1889.

How to Irrigate the Puerperal Uterus.—In an article on "Irrigation of the Puerperal Uterus" (*Southern California Practitioner*, Feb., 1889) DR. WALTER LINDLEY says:

The instruments used are a fountain syringe holding a gallon, with a vaginal

nozzle and a double uterine irrigation tube. The tube we use was made by Lentz, 18 North 11th street, Philadelphia. It is thirteen inches long, one and one-half inches in circumference, and is well curved. The openings for the entrance of fluid are small ($\frac{1}{8}$ inch diameter) and numerous and extend over about two inches of the upper surface of the end of the tube. Deep grooves on the sides and large openings ($\frac{3}{8} \times \frac{1}{2}$ inch) into the return channel, extending over five inches of the under surface of the uterine end of the tube, provide for the free exit of the injected fluid. The larger the tube the less likely are we to have choking of the exit channel. A tube of smaller diameter is used to wash out the non-puerperal uterus after operations on its cavity, as curetting, etc.

First, instruments and hands are thoroughly scrubbed with soap and water, and soaked in tartaric-sublimate solution 1:500. The double tube must be boiled for half an hour before each irrigation, and afterward thoroughly cleaned with nail-brush. Clean out each hole carefully.

About three inches from the edge of the bed a small pillow is placed lengthwise, and over this an ample piece of rubber cloth so arranged as to form a spout passing into a bucket. The patient is placed across the bed, over the rubber cloth, the hips projecting slightly over the edge of the bed. The head and shoulders are comfortably supported by pillows: each leg is well wrapped in a separate blanket, the feet resting on two chairs placed widely apart. After the pudential hair has been removed by scissors and the external parts thoroughly cleaned, the vagina is thoroughly cleaned by injecting a gallon or more of warm water, through a hard rubber vaginal nozzle, the holes of which have been greatly enlarged by a penknife. After the vagina has been thoroughly cleaned, a quart of sublimate solution 1:4000 is allowed to run into it. Take care that the cleaning process is extended into all the

folds and recesses of the vagina and cervix, by moving the nozzle in all directions. This must not be left to the nurse.

Now the forefinger of the left hand (which has, as a matter of course, been thoroughly disinfected, warmed and greased) is gently passed into the uterine cavity, the palm of the hand hugging the anterior vaginal wall, and if necessary the uterus being pressed gently downward. If any foreign matter, as clots or membranes are detected, the patient is etherized, the well-greased hand is inserted into the vagina, and one or two fingers into the uterus, which is gently but thoroughly emptied by repeated crooking motions of the fingers, adhesions to the endometrium being separated by gentle scraping with the finger nail.

The uterus having been thoroughly emptied, or having been found empty, the left forefinger is again inserted past the marked flexure always existing in the puerperal uterus at or near the internal os, and the double tube passed along it to or near the fundus. *No force must be used.* The procedure greatly resembles the passage of a sound into the male bladder. The flow is started before the tube is inserted to prevent the entrance of air.

Nothing but pure hot water should be used until the genital canal is thoroughly cleaned. Then a quart of tartaric sublimate solution 1:5000 may be used, and should be followed by more hot water.

The tube is allowed to remain for a few seconds, so that all fluid may drain from the uterus. The patient is then turned well over on her side, so that the vagina may empty itself.

The vaginal lesions should now be thoroughly dusted with iodoform (or if diphtheria exists the patches, according to Lusk, should be painted with equal parts of a mixture of persulphate of iron and compound tincture of iodine), and a hollow suppository holding half a drachm of powdered iodoform pushed well into the uterus.

To Avoid Sublimate Poisoning: 1. Where intra-uterine irrigation is used in the absence of sepsis, use no sublimate, but plain hot water or salt and water. 2. If the urine is albuminous and scanty, use no mercury. 3. If the urine is slightly albuminous and copious, or if the patient is profoundly anæmic, do not use more than a pint of a solution of 1:8000. 4. Always use tartaric acid and sublimate tablets or powders; dissolve thoroughly in a small quantity of water and mix carefully with a definite quantity of hot water in a pitcher, from which pour into the irrigator.¹ 5. Always use fountain syringe, and for the uterus a double tube, so as to insure the return of the solution. If for any reason the fluid fails to run out as fast as it flows in (if not through the reflux tube, by way of the channels at its sides), shut off the flow. The irrigator should not be raised more than three feet. 6. Precede by copious irrigation with hot water to wash out blood, etc., which may form with sublimate adhesive albuminous compounds, which may in time be absorbed. Follow by a quart or two of hot water to insure the evacuation of all the sublimate solution. 7. For the uterus use a solution not stronger than 1:8000 and not more than a quart once daily. 8. For the vagina use a solution not stronger than 1:4000 and not more than a quart twice daily.

Irrigation used in the above way is, we believe, a practice almost devoid of danger. We have made more than one hundred and seventy-five irrigations with the double tube and fountain syringe, with no untoward results except in two cases an unimportant rise of temperature, and in one a severe but harmless chill, and even these

¹ Campbell, twenty-first and Pine streets, Philadelphia, makes the only really good tablet in the market. It is composed of sublimate about 4 grains, and tartaric acid about 20 grains. One to a pint = 1:2000. This formula, which is Lapeyre's, may of course be imitated by any apothecary and put in powder form in waxed paper. It has very great advantages over other formulæ.

slight accidents we feel certain might have been avoided by greater care. Yet irrigation of the puerperal uterus will always be a procedure requiring great care and judgment and some skill.

Leprosy Cured by Unna's Method.—DR. DRECKMANN, of Vienenburg, reports a case of leprosy cured by treatment in the following manner:

The lower part of both legs and both feet, as well as both forearms and hands, are daubed twice a day with 10 per centum pyrogallie ointment, the remainder of the body with 10 per centum chrysarobine ointment by means of a stiff bristle-pencil or of a tooth-brush. The face, with the exception of the lower jaw region, is covered once a day with strong salicyl-creosote plastery, daubing the latter with zinc-glue. This process, I may say, is the soul of the whole treatment, and has remained the same in its essential features from beginning to end, although with various modifications and experiments. To mention the most important among these: Experiments were tried with stronger ointments, pyrogallol up to 15 per centum, chrysarobine even as high as 25 per centum ointments. With pyrogallol, the experiment was punished almost regularly by a pyrogallol intoxication after 2 or 3 applications of the ointment; chrysarobine, which was decidedly less noxious, only induced an increased irritability of the skin. In both cases, the treatment was interrupted for 1-2 days, to subject these conditions to the proper treatment.

If it is desired to increase the intensity of the treatment, Unna's plasterys are to be recommended. Many nodosities, especially on the back of the hand, which remain almost unaltered by the ointments, disappeared after 2-3 applications of the plaster.

A nodule in the lobe of the ear, having the size of a pea, and doubtless of leprosy nature, vanished forever in one night

before the chrysarobine plaster, in which I enveloped the whole concha. Being surprised myself by this result, I left this ear without any further treatment, in order to see whether the nodule might not return in one form or another. There was never any new disturbance.

In fact, I have succeeded in removing definitely the most obstinate indurations of the skin by means of plaster. Pyrogallol plasters are preferable to chrysarobine plasters with regard to efficiency.

Single nodules in a favorable location which allows to encircle them with the fingers, may simply be taken out with the knife: the wounds, caused by the operation, heal exceedingly well, and I have never seen in any place a reappearance of the induration. For I will not omit to mention that it happened to me several times that a nodule, which I had covered with a plaster, had disappeared from that very place on the following day, but only to be located near by, although in a more enlarged and mollified form. For this reason, general treatment should never be suspended, as long as there is one single nodule to be found somewhere.

Special attention should be bestowed on the treatment of the face. The well known *Facies leonina*, with its sombre, repulsive, fear inspiring expression has to be improved by all means, not only because it is a morbid condition, but also, because the patients themselves attach considerable importance to this improvement which saves them from being immediately recognized as lepers. For this purpose, I have not only removed the existing indurations by means of ichthyol and chrysarobine plasters, but I have radically detached the skin more than a dozen times by means of salicyl-creosote plasters, daubed with zinc-glue. For the purpose of finally rendering the complexion as nearly as possible similar to that of healthy persons, Unna recommends ichthyol ointments as the most efficient remedy.

As for the affections of the mucous mem-

brane, the conjunctival catarrh disappeared by spontaneous action, doubtless in consequence of the general treatment. The ulcer in the nose, the induration on the tonsils as well as the little nodule on the epiglottis were removed or cured by cauterization in 6 sittings. Treatment of the ulcers with nitrate of silver, boracic acid, did not succeed, nor emollient of the indurations on the tonsils. During the whole treatment, ichthyol was administered internally, doses being in the beginning 0.4 grams in pills, then after a fortnight, 1.0 pro die, by gradual increase. After that, I proceeded with larger doses of 2.0 grams, and soon of 3.0 grams pro die in capsules. I have never seen any unfavorable consequence of the internal use of ichthyol. As to the question whether ichthyol has really an appreciable action on the disease, when applied internally, I would not answer in a direct way. The fact is that the small doses of 0.4 pro die, applied in the beginning, were accompanied by as rapid an improvement in the condition of the patient, as later 3 grams pro die. I will not omit to state in this connection that Unna at present considers invigoration of the patient, especially removal of muscular debility and want of appetite, as the real value of internal administration of ichthyol.—*Pacific Record of Medicine and Surgery*, February, 1889.

An Anomalous Form of Eczema.—DR. E. D. MAPOTHER writes (*British Medical Journal*, January 5, 1889):

Last January I was consulted about a raw surface involving the right tragus, and the hairless skin in front of it, and at once its likeness to Paget's disease of the mammary areola struck me. It was oval, about 1½ inch vertically and an inch transversely, florid and moist as is the glans penis during balanitis. The patient was a married woman of 40, long troubled with uterine maladies. Referring to my notes, I found records of two very similar cases, unilateral and in

females, but of diverse ages—45 and 12. In the latter there was also a small patch a little above the eyebrow. The uniform, florid, oozing surface without granulations, hard and slightly raised, but without the rolled over edge of rodent ulcer, without pain or much itching, stubbornness to treatment, without occasional disappearance, characterized all the cases. Dr. Crocker has observed a like condition on the scrotum.

Some physiological analogies group these regions: in all the sebaceous glands are very large; those round the nipple were, by Bidloo in 1685, described as supplementary mammary glands. The soaking of the skin by the overflow of milk or by the saliva of the infant may be prevented by their oily secretion, and in the scrotum and parotid region a similar waterproofing protection may be afforded against the urine and the sweat falling from the temple respectively. All agree as regions in which the arrival of puberty is manifested. In the female the scanty hair in front of the ear remains of the lanugo kind, and the glands are correspondingly large. The raw surfaces occasionally noticed round the lips, the nostrils, the eyelids, and round the anus are somewhat like, but they are rarely so chronic as Paget's disease, or the condition I note in the parotid region. All the cases healed, a slightly depressed unpigmented cicatrix remaining. Some forms of eczema undoubtedly leave scars, reaching well into the papillary layer. In 1879 Professor McCall Anderson saw with me a girl aged 4, who had somewhat similar raw eczematous patches on one cheek, and on the flexures of both knees and one elbow and ankle. The oozing was excessive, and did not cease for six years after, when rickets of the spine appeared, due probably to the saline flux. Pale, somewhat concave scars endure.

It may be mentioned that Paget's disease of the mammary areola appears to be

rare out of England; so say Scotch and American observers; and except a case which I observed in St. Vincent's Hospital, I can find no record of an instance in Dublin. My patient was an Englishwoman. It may be that there is a peculiar microbe which has not been freely imported, nor has found a fit soil. The curative effect of that greatest of parasitocides, mercury, in the cases here noted, supports that probability, as also does the apparent usefulness of exclusion of air. All forms of eczema on the face are obstinate, because of the unavoidable access of light and air. The earlier cases I treated by an ointment containing carbolic acid, mercurial ointment, and vaseline; in the latest, that most valuable natural agent, lanolin, was employed as the vehicle; but in all, the surface being so limited, exclusion of air was attained by Seabury and Johnson's rubber plaster carefully adjusted.

Prevention of Summer Diarrhœa in Children.—DR. L. EMMETT HOLT says (*Medical News*, Feb. 23, 1889):

The treatment of follicular ulceration of the intestine is extremely unsatisfactory. I believe that the great majority of these cases are fatal. Certainly, I have never seen at autopsy in a child anything which resembled a cicatrized follicular ulcer.

Successful treatment must be in the nature of prevention.

Prevention must have regard to all the milder intestinal catarrhs.

Regarding neglected diarrhœas during dentition, so much has been said recently that it is scarcely necessary to enter here again a protest. There is to my mind no more reason why an intestinal catarrh should not be treated, and, if possible, cured during dentition than at any other time. The fact that a child with whooping-cough is extremely liable to bronchitis and pneumonia has never been given as a reason why these complications should not be

treated promptly and energetically when they arise.

Is an intestinal catarrh ever salutary? This is questionable. A number of loose movements may be of advantage to expel undigested food or other irritating materials from the intestine, but that a persistent intestinal catarrh, even if not severe, is an advantage to any child at any period remains to be proven.

The medical profession should take strong ground against the prevalent popular opinion, that so long as the general health is not affected, an intestinal catarrh is not only of no importance, but may, during bronchitis or dentition, even be beneficial, and that to cure it might be injurious.

It is in such cases as these that though amenable to proper treatment in the earlier stages, when allowed to run on, as they often are for weeks or even months, the foundation for grave and even fatal forms of diarrhœal disease is often laid.

The prophylactic treatment involves then the early recognition and intelligent treatment of all the forms of dyspeptic catarrh; in other words, it means that we must secure proper digestion, and this depends chiefly upon proper feeding.

Our attention has been repeatedly called of late to the importance of seeing that our milk and other infant foods are pure and free from germs and putrefactive products. This is all important. Another danger which has not been often enough emphasized is overfeeding.

During the past two years I have been trying to get at some exact data regarding the proper amount of food which an infant, who is artificially fed, should receive at the different periods. This has been studied, first, by measuring carefully at autopsies the capacity of the stomach; and, secondly, by weighing healthy infants who were nursed at proper intervals, before and after they were put to the breast.

While I have not yet accumulated sufficient statistics for publication, still enough

has been learned so far to show that the figures given in most of our books are altogether too large, and that the vast majority of hand-fed infants are *very greatly overfed*.

Difficulty and failure may result from this fact where every other condition for success has been attended to.

In conclusion I would emphasize the following points:

1. Children should not be overfed at any time, but especially not in summer.

2. At this season, also, every dyspeptic catarrh should be attended to: many of these are promptly curable by merely clearing out the intestine and then cutting down the quantity of food.

3. Should an intestinal catarrh, even a very mild one, continue for two or three weeks, one may be pretty certain that he has something more than a functional disorder to deal with.

4. Every mild catarrh should be looked upon as the possible precursor of a severe type of intestinal disease, either near or remote.

5. In the treatment of all diarrhœal diseases it should be borne in mind that there is something more to be considered than the bacteria and the products of decomposition, viz., the anatomical changes.

Alum in Bread.—PROFESSOR J. W. MALLET, of the University of Virginia, has been pursuing an interesting course of investigations into the effects produced by the use of alum in bread, and has found that, as has long been assumed, it is injurious. In the United States the greater part of the baking powders sold, it has been found, are made with alum, the acid phosphate of calcium, bicarbonate of soda and starch. The result of Professor Mallet's inquiry, as given in the *Pharmaceutical Journal*, has been to show that these powders give off very varying proportions of carbonic acid gas, and therefore different proportions have to be used for the same

quantity of flour to produce the requisite porosity in bread. When moistened with water they yield small quantities of aluminium and calcium salts in a soluble form. Most of them leave, after use, the greater part of their alumina in the form of phosphate; but when acid phosphate of calcium is not used alumina is left. As the baking temperature in the interior of bread does not exceed 212° F., neither the water of combination of alumina or of its phosphate is removed from the residues of baking powder so used. However, in doses not very greatly exceeding such quantities as may be derived from bread as commonly used, Professor Mallet has found that hydrate and phosphate of alumina produced an inhibitory effect upon gastric digestion. He considers that this effect is probably a consequence of the union of alumina with the acid of the gastric juice, and at the same time of the precipitation of the organic peptic ferment in an insoluble condition like a kind of lake. A similar action may also be exerted by hydrate of alumina upon some of the organic matters of food. From the general nature of the results obtained, it is inferred that not only alum itself is injurious, but that likewise the residues resulting from its use in bread-making must be ranked as objectionable, and that the practice of adding alum should be studiously avoided when the object aimed at is to make wholesome bread.—*The British Medical Journal*.

Tape-Worm in an Infant on Raw Meat Diet.—DR. J. A. SHAW-MACKENZIE relates (*British Medical Journal*, Jan. 5, 1889) the following case:

A. B., aged 1 year and 7 months, was the third child of healthy parents; it was weaned at 9 months, and fed on milk and broth, etc. It was a well-developed child, but always suffered from constipation. In May last, at 12 months old, after a severe attack of bronchitis and laryngitis, raw meat diet was begun, an

ounce to an ounce and a half of finely scraped and pounded beef being given on alternate days. The child improved greatly, but in October began to fall off in looks; and on the 21st joints of tape-worm were noticed in the motions. Two fifteen-drop doses of liquid extract of male fern brought away several feet of the worm, but though small proglottides were noticed, no head was found, and though a repeated dosing was gone through a fortnight later nothing has been noticed since.

Remarks.—The possibility of tape-worm (*tænia mediocanellata*) following a raw or underdone beef dietary is well-known, but I do not think it is generally realized that the “raw meat diet” of infants carries with it the above disadvantageous chance. During three years as house-surgeon and registrar at the Victoria Hospital for Children and in private I have never met with a case, and it would be interesting to know (with the now more general raw meat dietary) whether tape-worm in children is more common. The early addition of meat to a child’s dietary is opposed to popular ideas, but the advantage, especially to the weakly and delicate, is so obvious by their rapid improvement and development that it seems disappointing to find that there is an “element of truth in the popular prejudice” of mothers against it. I am sure that children brought up on meat diet are very different in health, spirits, and physique from children brought up on a farinaceous diet, but in future I would recommend that all pounded meat should be first scalded with a little boiling water or beef tea, and I shall be inclined to push raw chicken diet, which from experience I have found children take readily and improve upon, with no apparent disadvantage.

Nature and Treatment of Diabetic Coma.—DR. STADELMANN, of Dorpat, in a recent article in the *St. Petersburgische Wochenschrift*, points out the great similarity

which seems to exist between the coma of diabetes and the condition produced in herbivorous animals by inducing acid intoxication. Amongst other points, he refers to some analyses by Minkowski, of the gaseous contents of the blood. In the normal condition, the blood of the rabbit contains 25 per cent. of carbonic acid; but when the animal is suffering from artificially induced acid intoxication, the carbonic acid is diminished. Thus in one instance Minkowski found it 16.4 per cent. with a moderate degree of intoxication; when the latter was increased, the percentage of carbonic acid fell further, first to 8.8 and finally to 2.9 per cent. In order to compare this with the gaseous changes in the blood of diabetics, he examined the blood of a patient before and during coma, the carbonic acid being respectively 17.0 and 3.34 per cent. In order to ascertain whether this diminution of the carbonic acid in the blood was merely due to coma as such without reference to its cause, he examined the blood of a comatose patient, not a diabetic, whose condition was due to meningitis. Here the carbonic acid amounted to 28.2 per cent. The acid existing in diabetes appears to be oxybutyric acid, which in some cases appears in the urine to the extent of something like three ounces per diem. Some years ago Dr. Stadelmann found a new acid, which he believed to be crotonic acid, in considerable quantity in certain cases. He now, however, considers it merely a substitution product from oxybutyric acid. The indications for treatment supplied by these views are of course to combat the acid by large quantities of alkali. Several attempts have been made to treat diabetic coma by injecting into the veins from one to four ounces of carbonate of soda dissolved in about four pints of water, with a little chloride of sodium. In only one instance, however, has this proved successful, and unless it is done very early no good result can be fairly expected of it. It is found

that the urine in twelve hours after the injection is intensely acid. Better results are to be obtained in attempting to ward off coma by giving alkalies freely. Thus Dr. Stadelmann prescribes about an ounce of tartrate or citrate of soda dissolved in about half a pint of soda water two or three times a day, and has found great reason to be satisfied with this line of treatment. Of course, if coma should come on, he would have recourse to alkaline intravenous injections without loss of time.—*The Lancet*, Feb. 9, 1889.

Opiates in Diabetes Mellitus.—In a paper on the relative value of opium, morphia and codeia in diabetes mellitus, read before the Section of Pharmacology and Therapeutics of the British Medical Association, DR. THOMAS R. FRASER said that he had arrived at the following conclusions:

1. The case was one in which mere restriction of diet did not have so marked an effect as occurs in many cases. The prospects of successful treatment were not, therefore, very hopeful.

2. Codeine had a very decided effect in reducing the quantity of urine, sugar and urea. When contrasted with the reduction produced by restricted dietary alone, the addition of nine grains of codeine in the day lessened by about one-third, and of fifteen grains of codeine in the day by about one-half, the quantity of fluids drunk, and the quantity of urine, sugar and urea, and it slightly reduced the specific gravity of the urine.

3. The addition to fifteen grains of codeine of the one-twentieth, and afterwards of the one-tenth of a grain of sulphate of atropine, caused a still further, though not a large, reduction.

4. After the administration of codeine had been stopped, an interval of six days on restricted diet, without any medicinal treatment, was not sufficient for a deterioration to occur to the conditions present before codeine had been given.

5. The subsequent administration of half a grain of opium thrice daily produced a considerable reduction. With one grain of opium thrice daily the reduction was to less than one-half, when contrasted with the amounts during a restricted diet alone, and before any medicinal treatment had been adopted. One grain and a half thrice daily produced a further reduction; and when to it was added one-twentieth of a grain daily of sulphate of atropine, a still further reduction occurred.

6. Restricted diet, with one third of a grain of hydrochlorate of morphine thrice daily, or one grain daily, also produced a marked reduction; and the conditions relative to the points under investigation were even more satisfactory than when fifteen grains daily of codeine were being administered. While this small quantity of morphine was being taken, the fluids drunk by the patient were only one-third, the urine and sugar less than one-half, and the urea about one-half of the amounts during the period of restricted diet alone, before medicinal treatment had been commenced.—*Northwestern Lancet*.

The Bacteriology of Puerperal Fever.—CZERNIEWSKI (*Arch. f. Gyn.*, B. xxxiii., H. I.) in an elaborate paper discusses some of the unsettled questions of puerperal bacteriology. Many authors are of the opinion that the streptococcus is the specific microbe of puerperal fever, at least that which pertains to the severer forms of fever (Pasteur, Löffler, Gönner). Of the cause of the lighter forms there is as yet no settled opinion. Fritsch makes two forms of fever—septic or severe and non-septic or light, believing that the septic fever may be produced by non-pathogenic organisms. Olshausen separates the non-malignant (peri- or parametritic) from the septic variety without attempting to explain the difference in the pathogeny. Charpentier recognizes a traumatic and a septic fever. Schroder says putrefaction of lochia may

occur from access of atmospheric germs. Zweifel does not commit himself on the question whether the lighter varieties of puerperal fever are of septic origin or not. The severer form he ascribes to the chain cocci. He apparently thinks the chain cocci may in certain cases cause only the milder grades of fever. The larger proportion of the lighter forms are produced by the absorption of putrefactive products (ptomaines, sepsin).

Charles appears to be of the same opinion as Charpentier. So far as the writer knows Crédé is the only authority who takes a decided stand on the theory that all grades of childbed fever are due to infection with one and the same poison. The different results of infection he attributes to differences in the resisting power of the organism, the sites of invasion and channels of diffusion. If the peccant germs expend their force upon the tissues, the lighter forms of fever result; if they gain access to the blood or lymph-vessels, the graver forms are produced.

Rosenback, Passet, Norden, Mejerowitz, Biondi, and others declare the identity of the pyogenic streptococcus and that of erysipelas. Pawlowsky, Hoffa, Winckel believe them to be different organisms.

Dr. C. has studied the subject by the aid of an elaborate series of bacteriological investigations conducted in the lying-in hospital at St. Petersburg. He examined the lochia of sick and healthy puerperæ and the fluids from the cavities of bodies dead of puerperal fever, and made cultures therefrom. His conclusions are as follows:

1. Micro-organisms are very seldom found in the uterine cavity or the lochia of healthy puerperæ.
2. The lochia of healthy lying-in women possesses neither phlogogenic nor pyogenic properties.
3. In most cases of light puerperal fever the streptococcus may be found in the uterine cavity and the lochia.

4. In fatal cases of childbed fever (septicæmia, lymphatic form), the streptococcus is found in the lochia, and after death in all the organs and fluids of the body.

5. The streptococci of the light and of the fatal forms of fevers are one and the same organism.

6. The streptococcus of puerperal fever by inoculation in animals is capable of producing abscess or erysipelas.

7. In sick puerpere the streptococcus gives rise to a degeneration of the parenchymatous organs, hyperæmia of the serosa, and to more or less exudation.—*Brooklyn Medical Journal*, March, 1889.

Hydroxylamin in Skin Diseases.—DR. EICHOFF, of the Municipal Hospital, Elberfeld, has found an admirable substitute for pyrogallie acid, chrysarobin, and other powerful reducing agents used in external applications for skin diseases in hydroxylamin, which is, chemically speaking, an ammonia in which one of the atoms of H is replaced by HO. The most suitable compound for dermatological use is the chloride, the formula of which is $\text{NH}_2\text{OH} \cdot \text{Cl}$. This occurs in colorless, strongly hygroscopic crystals, which are readily soluble in water, glycerine or spirit, the solution showing an acid reaction. When introduced into the blood, hydroxylamin forms methæmoglobin, the blood rapidly becoming of a deep brown color. In large doses—that is to say, 0.01 gramme per kilogramme of body weight—it produces hæmaturia in consequence of the destruction of the red corpuscles. It also acts on the nervous centers, producing narcosis. The high reducing power possessed by hydroxylamin renders it a powerful poison to low organic forms, and on this account it is to be very strongly recommended in dermatology. The preparation used by Dr. Eichhoff is the hydrochlorate dissolved in a mixture of equal parts of glycerine and spirits of wine in the proportion of 1 per 1000. This is applied with a brush to

the affected parts of the skin, which must first be carefully washed with soap three to five times a day. In this way he has treated five cases of lupus, five of ringworm, and one of parasitic syçosis, with excellent results. These were specially remarkable in two cases of very severe lupus. Dr. Eichhoff is hopeful that this remedy, which may sometimes perhaps be applied in the form of subcutaneous injections, may be found useful in psoriasis, parasitic eczema, and even in lepra and syphilis. He, however, warns those who propose to try it that it is a very powerful irritant, and that even for outward application a strength of 1 per 1000 is quite enough.—*The Lancet*, Feb. 9, 1889.

Surgical Shock.—Upon this most important topic MR. CHRISTOPHER HEATH says: While many surgeons, myself among the number, rarely employ the carbolic spray nowadays, yet even without this there is, I believe, considerably increased risk to patients in the exaggerated slowness of modern surgery. For a patient to breathe the vapor of ether or chloroform for over an hour is a serious matter for both heart and lungs; and when we add to that a steady drain of blood going on for an equal time, one cannot be surprised at the production of deadly shock. And is there any gain after all in elaborate dissections of the living as though it were a dead body? I believe not; and, having had a fair amount of experience in removing tumors of all sizes from all parts of the body, I would urge surgeons to use the left hand a little more and the right a little less than now seems to be the fashion. I mean, to make forcible traction with the one hand whilst avoiding the tense structures with the other, so as to avoid dissecting-room proceedings with scalpel and forceps as much as might be. I hope I shall not be misunderstood as decrying careful dissection in appropriate cases—for example, the ligation of large arteries; for I fear, from

what I see in examining candidates for the higher surgical degrees, that a blunt director must be used by some teachers in what I consider to be a very dangerous manner. The following guards against shock are strongly recommended: a rectal injection of brandy and hot water prior to and a subcutaneous injection of morphine and atropine after an operation.—*British Medical Journal*.

Phenacetine.—Apparently one of the best of the modern antipyretics is a substance described by Hinsberg and Kast as paracetphenetidin, a substance analogous as regards its chemical constitution to antifebrin. We have already a number of times alluded to the properties of this substance (*Therapeutic Gazette*, 1888, pages 43, 142, 699), and although the testimony as to the action of this preparation as an antipyretic and antineuralgic appears to be unanimous as to its value and freedom from danger, it has attracted no attention among English-speaking members of the profession. This preparation, phenacetine, as first prepared, was a reddish, odorless powder, insoluble in water and in glycerine, and thoroughly soluble in hot alcohol and alkaline liquids. It has been recently prepared in colorless, crystalline needles, which are claimed to be soluble in acetic and lactic acids and in hot oils. Extended experiments on dogs and rabbits have shown that it is almost inert in doses of from 15 to 30 grains given daily for days at a time. When the dose is increased up to 45 and 75 grains in large dogs it produces accelerated respiration, sleepiness, disturbed co-ordination, and vomiting, and, in still larger doses, methæmoglobin is produced, as in antifebrin-poisoning. Even after this symptom has appeared, however, recovery has almost invariably occurred. Dr. Hoppe (*Deutsche Medicinal Zeitung*, 1888, No. 92) has made a number of experiments on man, administering doses of from 15 to 40 grains, and has found that after a time the

system becomes accustomed to the remedy. The only disagreeable effects produced by these amounts were sleepiness, dizziness, nausea, and slight chilliness, the temperature, as consequent on doses of 30 grains, being only reduced a few tenths of a degree Centigrade. It appears, therefore, to be almost free from toxic properties, while his experiments made in the Jewish Hospital in Berlin have confirmed the result of the experiments as already published by other observers. It has proved absolutely harmless, the only disagreeable after-effect being profuse perspiration, ringing in the ears, followed by weakness, and only in individuals already depressed by disease. As an antipyretic in children, doses of about 2 grains reduce the temperature from 1° to 2° C., a single large dose producing more effect than repeated small doses.

Led by the analogy of phenacetine in composition to antipyrin and antifebrin, Dr. Hoppe has likewise tested the properties of this drug in twenty-five different forms of neuralgia, in the majority of which relief of pain followed its employment. Various cases of headache were also relieved by its use within half an hour to an hour; and he believes that in neuralgia, as in febrile disease, it is equally as efficacious as antipyrin, and is preferable to it on account of its freedom from danger.

Dr. Rumpf (*Berl. Klin. Wochenschr.*, No. 23, 1888) likewise experimented to a considerable extent with phenacetine as an antipyretic and in the treatment of neuralgia. Dr. Rumpf believes that as an antipyretic it is as active as any yet introduced, since he has found that a single dose of 15 grains given to adults may reduce the temperature in the febrile state from two to three degrees in two hours; even half the dose has produced the same effect with no disagreeable complications. In eight cases of hemicrania doses of 15 grains produced great relief, while in seven cases of neural-

gia of different nerves it has likewise been very satisfactory. Dr. Rumpf describes phenacetine as a drug which, in doses of 15 grains to adults or 3 grains to children, is an absolutely safe, reliable, and satisfactory antipyretic; while in doses of 15 grains it is highly recommended as an anti-neuralgic remedy in all cases of vasomotor neuroses, in the lancinating pains of tabes and the neuralgias of chronic neuritis.

Drs. Misrachi and Rifat (*Bulletin Gén. de Thérapeutique*, June 22, 1888) have confirmed in all respects the statements which we have already published as to the action of this remedy. It is these authors who have determined the solubility of phenacetine in lactic acid. They have found that this solution is not disturbed by the addition of water as long as the temperature does not fall below 33° C. It is evident that this discovery is a great addition to the practical value of this remedy, since its high insolubility has been the principal objection to its use in therapeutics. After the administration of the lactic-acid solution it is rapidly absorbed, and has been capable of detection in the urine.—*Therapeutic Gazette*, March 15, 1889.

Germicides in Typhoid Fever.—Although in typhoid fever there is a better opportunity for using germicides in sufficient concentration to render them effectual, practitioners appear to be slow in adopting this idea in its treatment. This is doubtless in great part due to the very fair results obtained by the treatment already in vogue. The antiseptic methods practiced in the great German hospitals, and the expectant plan pursued in this country, have yielded a percentage of recoveries which is certainly remarkable when we consider the serious nature of the disease, and the dangerous complications and sequelæ which beset it. But no result is good enough if there be room for a better.

Another reason for the slowness of the

profession to take up the intestinal germicides has undoubtedly been the thought that, while the intestinal canal has served for the introduction of the disease-germs into the body, the symptoms are produced by the penetration of these germs into the blood-vessels, and their passage to all parts of the body. To what extent and at what stage of the disease this takes place, we are not as yet informed. Indeed, we are in want of a series of examinations of the tissues and fluids of the body, during the progress of typhoid fever, with a view of determining this interesting point. Judging from the effect of germicidal treatment, we are warranted by clinical observations in believing that the intestinal canal is at first the sole theater of the microbic operations, and that the general symptoms are produced by the absorption into the circulation of poisons generated in the intestines by the specific microbes of the disease; further, that there is a time when a microbic invasion of the blood really occurs; after which the exhibition of intestinal germicides fails to be followed by the marked benefit which accrues from their use previous to that time.

It may be noted that even before the promulgation of Klebs' discovery, the remedies which had obtained the esteem of clinicians in the treatment of this disease are those which possess some local germicidal properties.* How else can we explain the claim of Wunderlich, that typhoid can sometimes be aborted by a few doses of calomel? Or that cases treated throughout with iodine give a better percentage of recoveries than those treated without it, all other conditions being the same? It is possible that nitrate of silver, the mineral acids, quinine and turpentine owe their reputation in great part to their local germicidal effects.

During the past year there have been several important publications upon this subject; especially noteworthy as showing that several observers, working with dif-

ferent agents, have obtained very favorable results.

Gramshaw¹ reported a series of 116 cases, treated with carbolic acid and iodine, without a single death.

Bouchard² makes use of naphthol and salicylate of bismuth, and claims results more favorable than were obtained from empiric medications, and the treatment of symptoms. As he associates with this treatment the use of baths, quinine, calomel, etc, it is not possible to judge definitively of the exact value of intestinal antiseptics in his very numerous successful cases.

To these observations is now added an interesting paper in *The Practitioner* by J. Mitchell Clarke, on beta-naphthol in enteric fever. He calls attention to the ease with which toxic bodies, found in the intestines, normally, or through the intervention of the disease, gain access to the organism through the intestinal ulcers. Bouchard showed that beta-naphthol is only toxic in doses of about eight ounces per day for an adult of average weight, while forty grains in the 24 hours suffice to keep the bowels aseptic. This is given in milk, or in gelatine capsules. Small doses frequently repeated are preferable.³

Acetanilide or phenacetine were also used when the fever exceeded 102° F.

In the five cases treated by naphthol throughout, the abdominal symptoms were favorably modified, but the fever showed its usual course, the highest range being 103.5° to 104.8°. In two cases the naphthol had to be stopped on account of gastric disturbance, excited by the drug. In one case a relapse occurred after deferves-

cence from a mild first attack. Convalescence was unusually rapid in this series of cases, and the patients were less reduced in strength than usual.

His conclusions are:

1. That the production of an intestinal antiseptics is a rational mode of treating enteric fever, and that beta-naphthol is a safe and tolerably efficient agent for this end.

2. That by its use in the above cases the duration of the disease was shortened, and the intensity of the symptoms directly arising from profound disturbance in the alimentary canal was lessened.

3. That the tendency to the occurrence of splenic enlargement, albuminuria and secondary complications, such as boils, abscesses, etc., of purulent infective origin, is diminished.

4. That complete convalescence is more speedily and satisfactorily attained, and that there is less risk of a propagation of the disease to others.

In June last the writer presented a series of twelve cases treated with the sulpho-carbolate of zinc. Eleven of these were thus treated from the beginning, and all recovered. The other case was almost moribund when it came into the writer's hands, from repeated intestinal hemorrhages, and cannot be counted against the treatment, except as showing that there is a time when intestinal antiseptics ceases to be curative. Since that time twenty-two cases have been treated by the same agent, all of which recovered.

The sulpho-carbolate of sodium was substituted for the zinc salt in some instances, the results being apparently identical.

Neither Clarke's list of seven cases, nor our own of thirty-three, is sufficiently extensive to warrant positive deductions; but it may be of some interest to point out the differences in the action of the two agents used:

1. Intestinal antiseptics is procured by

¹ Philadelphia Medical Times, Aug. 1, 1888.

² La France Médicale, Jan. 3, 1889; page 3.

³ The following is Clarke's formula:

R Beta-naphthol.....gr. xx
Tinct. aurantii.....f. ʒ ij
Syr. limonis.....f. ʒ ss
Mucil. tragacanthæ.....f. ʒ iij
Aqua, q. s. ad.....f. ʒ vj

M. S. Dose, f. ʒj. •

both, requiring 40 grains *per diem* of naphthol and 30 grains of the sulpho-carbolate (in adults).

2. Gastric disturbance resulted in two cases out of seven from the naphthol; in none from the zinc.

3. No decrease in the fever was obtained from the naphthol, while in every case the sulpho-carbolate caused a fall of at least one degree.

4. Dr. Clarke does not state that the cerebral symptoms were either moderated or prevented by naphthol; while this formed a marked feature in all our cases but one.

5. The tendency of secondary suppurations, probably resulting from the entrance of pyogenic bacteria through the intestinal ulcers, was diminished in both series.

6. We think that the effect on the intestinal symptoms was more marked in our own cases, though it may be simply that Dr. Clarke has not dwelt on this point.

Altogether, the advantage in every particular appears to be on the side of the sulpho-carbolates.—*Medical Times*, February 1, 1889.

Subcutaneous Silk Ligature in Fracture of the Patella.—At the meeting of the New York Surgical Society on January 9, Dr. LEWIS A. STINSON showed two patients with recent fracture of the patella treated by subcutaneous silk ligature. During the preceding two months he had thus treated five patients with recent fracture, the two now presented being the first and third of the series. The second had been discharged cured; the fourth and fifth were still under treatment and doing well.

The method employed might be called a modification of the external silk ligature employed some years ago by Volkmann, and had been suggested and employed in the first two cases, under the speaker's supervision, by Dr. E. W. Clarke, house surgeon at the New York Hospital. It

consisted in passing a silk ligature through punctures made in the skin, through the tendon of the quadriceps femoris and the ligamentum patellæ and under the skin in front of the patella, in such a manner that by drawing the ligature tight the two fragments of bone were drawn together. He employed a long half-curved Hagedorn's needle and a stout braided silk ligature. The four punctures (through the skin and the sides of the tendons) were made close above and below the patella—at its four corners, so to speak. The needle was entered at the lower right-hand corner, carried through the ligamentum patellæ to the bone, then across and out through the opposite puncture. This made a loop through the lower tendon. Then the needle was entered beneath the skin at its recent point of exit and carried upward between the skin and the front of the patella and brought out at the upper puncture on the same side. It then reentered at this upper left-hand puncture through the tendon of the quadriceps, crossed beneath it, emerged at the opposite puncture, and thus made a loop through the upper tendon. The needle was then passed in at this fourth puncture (through the skin) and carried down under the skin and in front of the patella to emerge at the first puncture (where it had entered). The two fragments of the patella were then pressed into close apposition, the silk cord was drawn tight and tied, and its ends were cut short. The entire suture being thus subcutaneous, the punctures through the skin were closed with a single suture passed through each. It was not necessary that the ligature should include the entire width of the tendon, but it was sufficient if it embraced just enough to give it a firm hold. It should also be passed close to the attachment of the tendon to the bone, in order that it might not become slack by cutting through the tendon toward the bone, under the strain. The silk-worm gut was apt to break at sharp turns. Catgut became ab-

sorbed too soon unless treated with chromic acid. The union obtained was not bony, but a close fibrous union; however, this had been shown to be true of the union of the patella in most instances where examination had been made after death, even when the fragments had been wired together. He had in a single instance produced bony union after uniting the fragments with cat-gut. He applied only a simple posterior splint. The stiffness of the knee which patients at first experienced he was convinced was due to contraction of the internal and lateral ligaments of the joint and soon disappeared when the use of the limb was resumed.

In one case ten days had elapsed after the accident before the operation was done; in the others only a few hours. In the first case the needle had broken and a transverse incision had been made to remove the broken end. Silk-worm gut had been used in this case for a ligature, and its manipulation had been faulty. Twelve days later the fragments had been found to be an inch apart, probably owing to kinks forming in the ligature when first introduced. The operation had been repeated, this time silk being used. Suppuration had followed, but the process had remained extra-articular. After a month the silk suture had been removed through the sinus, and the silk-worm gut suture two weeks later. Since then the openings had closed rapidly. The patient could flex the knee nearly to a right angle and no separation could be felt.

In the second patient the fracture had been close to the upper border of the patella, and the patient had been discharged well in about six weeks. In the third patient (presented) the fracture had occurred five weeks before; he was now able to flex the knee to a right angle, and no separation of the fragments could be recognized. The fourth patient had been under treatment three weeks; there had been no inflammatory reaction, and the fragments were not

separated. In the fifth case only two days had elapsed since the operation.

The speaker thought the method was to be recommended, not only because of its own merits, but also because it was an efficient and apparently much less dangerous substitute for open arthrotomy and metallic suture—a method which, although almost entirely abandoned in Europe, was still having numerous victims in America. He knew of three cases, of which no report had been made, that had occurred during the past summer in the hospitals of New York where, after that operation, the joint had suppurated, amputation had become necessary, and eventually the patients had died.

DR. J. D. BRYANT asked whether the method would be available where there was marked separation of the fragments with difficulty in making coaptation, or when there was an interposition of fibrous tissue, or when a firm blood-clot filled the gap.

DR. G. A. PETERS suggested, in answer to Dr. Bryant's first question, that four, six, or even eight separate loops could be passed and drawn together.—*The New York Medical Journal*, March 9, 1889.

Lead-Poisoning from Service Pipes, in Relation to Sterility and Abortion.—DR. ALFRED SWANN says (*British Medical Journal*, Feb. 16, 1889):

The following cases are of interest, inasmuch as they suggest, if nothing more, a possible danger arising from the supply of water through leaden piping for domestic purposes.

CASE I.—Mrs. T., aged about 32 years, was confined in 1882. Since then she has had progressive ill-health, with constipation, digestive disturbances, frequent colic, rheumatic pains, and irregular menstruation, with now and then severe menstrual hæmorrhage. After cessation of menses for eight weeks an abortion occurred on March 17th, 1884. After cessation of

menses for seven weeks, another abortion took place on September 10th, 1884.

Colic continued to be frequent, and severe constipation remained obstinate, and recurrent attacks of metrorrhagia became alarming. I had for a long time been of opinion that the water-supply, which came through lead piping of some length, was the cause of all the foregoing symptoms, and in the early part of 1887, my patient having been confined to bed for some months, iron piping was substituted. After this there was only one attack of colic, and no severe hæmorrhage; the bowels became regular, and menstruation became normal for a time. Pregnancy ensued, and my patient was confined of a healthy child on March 2nd, 1888. Since then she has remained in good health.

CASE II.—Mrs. C., aged about 30 years, has had one child some seven years ago, in 1882. She came under my care in 1885, suffering from constipation, indigestion and colic. She has irregular and frequently profuse menstruation. She aborted after suspecting pregnancy for eight weeks, on January 6th, 1886. She has a blue line on the gums. I ascribed her abortion and previous illness to lead piping, and these were removed and iron pipes substituted. Colic became less severe and disappeared; the bowels became regular; menstruation became normal; then pregnancy ensued. On October 22nd, 1887, she was confined of a healthy child, and has since remained in good health. In the same house the servant suffered from rheumatic pains, colic, and constipation, until the removal of the lead piping, after which she regained her wonted health.

CASE III.—Mrs. F., aged about 30 years, has two children. The last was born on September 7th, 1884. After this her health became seriously impaired; she had severe digestive disturbances, rheumatic pains in the limbs and loins, constipation, colic, and very irregular menstruation. Her life became a burden to her, no treatment being

of any avail. I told her husband that I believed all her symptoms were due to the water-supply, but he ridiculed the idea. I referred him to Cases I and II. Even after receiving their evidence, his skepticism remained, but he removed the lead piping, and substituted iron. The result was as remarkable as in Cases I and II: all the symptoms disappeared and menstruation became regular. Then pregnancy ensued, and on May 11th 1887, my patient was delivered of a healthy child, and has since remained in good health.

I do not record these cases in a dogmatic spirit, nor do I aspire to scientific accuracy in my deductions from them, but there can be little doubt that in Cases I and II the cause of abortion and hæmorrhage was water contamination by lead, and in Case III one may reasonably suspect lead as being the cause of all the symptoms.

It has fallen to my lot to observe many cases of plumbism, and its relation to sterility and abortion only touches the very fringe of a vast subject. The influence of lead on the nervous, vascular, muscular, lymphatic, and digestive systems merits greater consideration than has hitherto been devoted to it.

To suppose that plumbism means only wrist-drop and paralysis of the extensors of the forearms seems to me to be illogical. I believe that in plumbism, neuritis is not confined to any particular set of nerves. Is not lead colic due to paralysis of the nerves regulating the muscular coats of the intestines? What is the meaning in cases of lead-poisoning of the tense pulse, the liability to epileptiform seizure, to cerebral and other hæmorrhages, to gout and uric acid, and to albuminuria and rheumatic pains? Surely these point to both nervous, vascular, and metabolic derangements which open up a wide field of inquiry for those who are interested in our food and water supply, and in public health generally.

This paper is written only to suggest

grave possibilities to those who at present barely recognize a serious source of danger, and although I personally am satisfied of the far-reaching and lethal influences of lead in relation to many conditions not generally regarded as having any connection with it, yet I would prefer that those with more opportunities at their disposal than I possess would follow out a line of investigation which I have merely indicated. I am satisfied that they will find a fertile field for research.

Methyl Chloride for Local Anæsthesia.—

DR. B. WARD RICHARDSON says: When chloride of methyl is condensed, it produces, on being liberated through a jet, an intense cold. It has therefore been used commercially for refrigerating the carcasses of dead animals intended for consumption as food. This use of it has led to the suggestion of employing it for freezing parts of the living body in the same manner as ether spray is employed for local anæsthesia. The idea of such use occurred to me soon after I introduced ether spray, but was abandoned because of the difficulty of managing the gas for the purpose required. The difficulty lies in so regulating the escape of the gas, as to be sure of doing enough without doing too much.

In itself the chloride of methyl has no local anæsthetic properties, as some ignorant notices of it in the general press would lead the reader to believe. It acts simply and solely like ether spray, by the cold it induces, and the surgeon who would employ it should fully understand that he is simply substituting one cold producer for another. As a matter of practice, ether or rhigolene spray for benumbing with cold is in every sense the readier and more practical method, and the principle at work is the same.

For causing local anæsthesia by extreme cold compressed nitrous oxide, carbonic acid, or sulphurous acid act in a similar manner to compressed methyl chloride. I

once pursued a line of enquiry for local anæsthesia with nitrous oxide and with carbonic acid, the jet of each of which produced local anæsthesia. A jet of the nitrous gas playing upon the skin destroyed sensibility immediately by the cold it caused, and once acted with such intensity that a burn was the result. A workman, who was engaged in fitting up a nitrous oxide apparatus in my laboratory, brought his arm accidentally across a jet of the gas escaping at great pressure, and was so severely "chill-burned" that I had to treat him as for a burn from heat. This man told me that the accident was not uncommon amongst his class of workmen, and that they called the wounds that followed exposure "*chill burns*."

After seeing the action of these gases as above described, it occurred to me that they might be used as cauteries for the removal from the skin of warts and small pendulous growths. Their jet is much less alarming than either the heated wire or the knife. It is also very rapid in its action, and at the moment painless, although, as a matter of course, there is some pain and soreness afterwards.

Here is a new line of practice for surgeons, for removal of foreign growths by the *freezing cautery*, a practice which I do not for a moment doubt they will one day take up and follow out to important results. There are other gases beside those named which might be used. Compressed chlorine, delivered in a very fine jet, would be magically destructive. Combinations of true anæsthetics and freezing jets might also easily be obtained, under which large portions of the body could be painlessly removed.

In commencing this line of practice there can be no doubt as to the best gas to commence with. The best gas is carbonic acid. It is cheaply and readily made; it is easily condensed, admitting even of being condensed into the solid form, but on being set free as spray from the liquid state it

causes sufficient refrigeration. One great advantage of it is that, unlike methyl chloride, it is not inflammable, and can be used, therefore, with artificial light. It is also slightly anæsthetic.—*The Asclepiad*, Vol. VI. No. 21.

Chronic Headaches of Functional Origin.

—In an article on this subject DR. CHARLES L. DANA says in regard to treatment:

The *treatment of headaches of young children*, for example, brings us into an almost special line of cases. In the city of New York at least, these headaches are best treated as a rule by giving small doses of the iodide of iron or the citrate of iron and quinine. In school children headaches have often to be treated by removal from school, the use of tonics, change of diet, and the application of glasses suitable to any eye-defects that may be present. But glasses should be the last thing tried, unless the visual trouble is very marked. In some children arsenic acts well.

As to the *therapeutics of headaches of adults*: Headaches among brain-workers require, as a rule, a different class of remedies to those among muscle workers. In the former class nervines like antipyrin, caffeine, the bromides, act well, while attention to diet, exercise, and the eyes is especially required. Among the laboring classes, especially women, anæmia, malaria, syphilis, and rheumatic influences must often be attended to. There are sexual differences also to be borne in mind. In my experience, for example, antipyrin has been much oftener successful in men than in women. This may, however, be only a coincidence.

I shall conclude the subject of therapeutics with a few remarks on symptomatic remedies. Among the best of these is muriate of ammonium in large doses, ʒss to ʒj, given in wafers. In the headache of neurasthenia, I have found that gr. v of menthol in hot water gives relief. In my

wards at Bellevue Hospital a combination of menthol gr. v to x, and antifebrin gr. v to x, is often used. Phenacetin is also a good remedy. A practical point of importance in the use of antipyrin is the dosage. Often the best results are gotten by small doses frequently repeated. The much advertised effervescent preparations for headache contain too small a dose of caffeine or of bromide to be of the best service.

Of local applications a spray or lotion of aconitia; sheet lint soaked in twenty per cent. solution of menthol and wrapped on the head; solutions of cyanide of potash after the method of Trousseau; Rithet's tobacco and quinine snuff, are some of the measures indicated.

Every one meets now and then with cases of headache of obscure origin, obstinate in character and intractable to every kind of treatment. The use of iodide of potassium and of the strong galvanic current and static electricity has been of service to me in some such cases. The possibility of a diffuse neuritis as a cause of the pain in certain of these cases should be borne in mind.—*Medical Progress*, March 16, 1889.

Mental Depression and the Excretion of Uric Acid.—In the *Practitioner*, November, 1888, DR. HAIG contributes an interesting paper on the relation between the excretion of uric acid and mental depression. The author has published his researches on the relation of certain forms of headache to the excretion of uric acid (*Med. Chir. Trans.*, vol. lxx.), and he now shows that the mental condition of many patients depends on the amount of uric acid in the blood; when the acid is in excess it produces marked depression or irritability of temper, when this excess passes off there is a feeling of exaltation and sense of well-being. Many suffer from a certain amount of mental depression and heaviness at that time of the day at which the excretion of uric acid is normally at its

greatest, that is in the morning between breakfast and lunch, during the time the acidity of the urine is lowest. This corresponds in every way to the condition artificially produced by giving alkalies, which wash uric acid in excess into the blood, so inducing depression; by giving acids sufficient to counteract the alkalinity of the blood, the heaviness and depression will give place to feelings of well-being, mental clearness, and pleasure in living. When the blood is strongly alkaline, and in a condition to hold much uric acid in solution, all the symptoms of mental depression are present, and are more or less marked according to the amount of acid present, the excretion of uric acid in the urine being at the same time proportionally in excess of the average. When a dose of mineral acid has been taken the mental conditions clear up exactly in proportion as the uric acid is cleared out of the blood, and its excretion in the urine diminishes. When a dose of acid has been taken to cure a headache or a fit of mental depression it is extremely common for some amount of shooting pain in the joints to be present while the acid is driving the uric acid out of the blood. By reducing suddenly the alkalinity of the blood in this manner, it is very common for the uric acid in the tissues of the joints to be deposited in the joints instead of passing off in the blood. In the treatment of cases of mental depression, where it is evident that the excretion of uric acid plays the chief part, it is not always certain that a dose of acid taken now and then will produce a cure; the prevention of the excessive formation must be aimed at by regulating the diet. A large amount of butcher's meat should not be allowed, but should be replaced by fish, fowl, and milk, and stimulants are to be avoided. In many severe cases the author has met with great success by insisting on a diet of bread, butter, milk, potatoes, and a large quantity of fruit, continued for weeks or months. At the beginning of

this treatment the washing out of the uric acid stores may be hastened by giving about 15 grains of salicylate of sodium three or four times a day, or in some cases a dose of 20 grains every night is sufficient. This subject is worthy of continued study, and should commend itself to all medical men.

*The Value of Inhalations in the Treatment of Lung Disease.*¹—A limited number of experiments made by the author on phthisical patients tend to show that inhalations of iodine, whether vaporized by the steam or the hand-ball atomizer, have no deep penetration, inasmuch as the iodine cannot be detected in the urine after the inhalation. Turpentine, on the other hand, when inhaled, imparts its characteristic odor to the urine, thus showing that it is absorbed into the blood. This may explain its efficacy in checking hæmoptysis.

The conclusions are as follows:

1. That the success of inhalations as a mode of medication depends principally on the easy convertibility into gas or vapor of such substances as are clearly desirable for the purpose.
2. That, consequently, bodies which are volatilized at ordinary temperatures are more readily absorbed by the lungs than bodies which have to undergo combustion before conversion into gases.
3. That all moist inhalations, where steam, watery vapor, or spray is the vehicle of medication, are but slowly absorbed by the lungs, and enter the circulation in small quantities, and in some cases not at all, the slow rate of pulmonary absorption contrasting strongly with the rate of gastric absorption of the same medicines when swallowed, as proved by their detection in the urine.
4. That medicinal inhalations are more useful in diseased conditions of the pharynx, larynx, and larger bronchi than in those of the alveoli and lung parenchyma.

¹C. Theodore Williams, *Lancet*, 1888, ii. p. 700.

5. That in pulmonary disease the anti-septic respirators, while they lessen cough, and reduce expectoration, exercise no lasting remedial influence on the diseased condition of the lungs, and often seriously interfere with the freedom of respiratory effort, which is so desirable in the treatment of such affections.—*Boston Medical and Surgical Journal*.

Treatment of Nasal Affections.—DR. COZZOLINO, of Naples, recommends for the various affections of the nasal passages the following compounds:

For scrofulous rhinitis.

R Sulpho-carbolate of zinc, grs. v.
Salicylate of bismuth, grs. lx.
Iodol, grs. vi.
Tannate of zinc, grs. xxx.
Powdered talc, grs. cl.

M. Use as a snuff.

Chronic catarrhal rhinitis.

R Powdered alum.
Borax, āā 30 grs.
Menthol, 3 grs.
Tannate of zinc.
Tannate of bismuth, āā 45 grs.
Lycopodium, ̄ ij.

M.

or

R Salicylate of zinc,
Tannate of bismuth, āā ̄ j.
Powdered borax, 30 grs.
Salol, 23 grs.
Powdered talc, ̄ ij.

M.

Simple acute catarrhal rhinitis.

R Chloride of ammonium, grs. 45.
Salicylate of sodium, grs. 30.
Chloride of potassium, grs. 45.

M. To be used as a snuff.

Hyperæmic swelling of the nasal mucous membrane.

A frequent cause of reflex disturbances.

R Glycerin.
Water, āā ̄ iv.

Alcohol (rectified), ̄ iss.

Menthol,

Cocaine, āā grs. 3.

M. Use three to four times daily.

Very acute coryza.

R Water,

Alcohol (rectified), ̄ iv.

Carbolic acid, ̄ ss.

Menthol, grs. iv.

Salammoniac, grs. 23 to 30.

M. Inhale.

Powders are best adapted to treating the nasal passages, as they remain longest in contact with the mucous membrane.

For epistaxis, the best new surgical remedy is the hot douche of 122° to 140° F.—*Deutsche med. Wochenschrift*, Jan. 24, 1889.

Citrate of Caffeine in Eclampsia.—B. CORNEY reports the case of a woman aged 23, who gave birth to an undersized but full-time child at 7 A.M. August 21st. after an easy labor of three hours. About noon headache came on; at 9 P.M. vomiting took place, and at 11 P.M. convulsions set in, lasting, with intermissions, ten hours. The bromides, hyoscyamus, chloral hydrate, and chloroform did not seem to have much effect. The patient remained in a deep stupor for three nights, and the two intervening days. There was slight fever, a weak pulse varying from 80 to 132, great cyanosis, incontinence of urine, and left hemiplegia. As the vital powers appeared to be rapidly failing, it was necessary to take some decisive step. Corney objected to alcohol, because of the imperfect aëration of the blood that was going on, as evinced by the cyanosis. He was uncertain how much of the stupor and cardiac weakness was due to the disease, and how much to the bromide and chloral. Caffeine suggested itself, and he immediately injected grs. iii. of the citrate dissolved with grs. iiss. of sodium salicylate in ℥x. of distilled water. This was followed in an hour by six grains more given by mouth, and two grains every

two hours afterwards for six doses. Some general improvement took place, the pulse bettered, and the attacks of lividity ceased. The paralytic symptoms diminished in degree, and towards dawn on the 24th signs of returning consciousness were observed. The caffeine was continued for two days, and from this time the patient made a steady recovery. A week later the only remaining abnormalities were a certain degree of muscular weakness and debility.—*Practitioner*, Feb., 1889.

Treatment of Vaginismus.—LUTAUD recommends, before resorting to operative treatment, to attempt the cure of this condition as follows: Introduce every night within the vulva a bougie composed of iodoform, gr. 15; extract of belladonna, gr. $7\frac{1}{2}$; cacao butter, dr. 2 $\frac{1}{2}$. Inject into the vagina three times daily a quart of hot water, to which has been added a teaspoonful of carbonate of soda, afterwards swabbing the vagina and vulva with a 10 per cent. solution of hydrochlorate of cocaine. This treatment is to be continued for a month, and attempts at coitus are to be practiced every two or three days after having anointed the vulva and penis with some lubricant. As parturition generally causes vaginismus to disappear, Lutaud advises that a hypodermic injection of $\frac{1}{6}$ of a grain of morphia should be given before coitus, as this, by its sedative action, may allow the act to be successfully performed, with pregnancy and the cure of the vaginismus as the result.—*Jour. de Méd. de Paris*, Nov. 18, 1888.

Thymol in the Treatment of Tuberculosis.—DR. W. PHILIPOWICZ has administered thymol to 38 patients, 17 of whom were treated exclusively with this remedy, while the remaining 21 were given the preparation after diarrhoea had set in. The results of the first group were: 10 improvements and 4 deaths, while 3 remained under treatment. The results of the second

group are not given, as the treatment was not a uniform one. Thymol was administered in daily doses of 45 grains, being given in gelatine capsules, in which medium the burning taste of the drug was less noticeable. Under the administration of thymol a diarrhoea will generally disappear in from two to four days, except when there exists amyloid degeneration of the intestinal walls. The drug can be taken for some time without producing any harmful effects: in fact, it seemed to the author that under its administration both the appetite and digestion were improved. In hæmoptysis it diminished the cough and the expectoration, it lowered the temperature, produced a gain in the body weight; in short a general improvement of the bodily condition, except in cases in which the disease was too far advanced.—*Wiener med. Presse*, Jan. 6, 1889.

Extirpation of the Thymus Gland.—In the *Finska Läkarsällskapets Handlingar* for November, 1888, are reported cases of partial extirpation of the gland for benign goitre, made by PROFESSOR AF. SCHULTEN, at Helsingfors. The operation as practiced in a series of cases extending from 1884-88 by different surgeons, had been invariably successful. Half the gland was removed in the three cases shown by Professor Af. Schulten, and he recommended removal of the degenerated portion only. The author remarks that in Finland goitre is for the most part sporadic. The cases so grave as to threaten life by suffocation by compressing the trachea are not common. But when there are dyspnoea and more or less difficulty in swallowing the necessity of operation is indicated. In these cases treatment with iodine was of no avail. The author recommends in the operation the passing of the drainage-tube behind the sterno-mastoid. In reviewing the various treatments he shows the much smaller proportion, 3 per cent., of deaths in partial excision than in total excision, in

which the mortality was 15 per cent. In rapidly growing goitre in young persons he recommends ligature of all the thyroid arteries as practiced by Wölfler.—*The London Medical Recorder*, Jan. 21, 1889.

The Contagiousness of Pneumonia.—In a long article on this subject Netter¹ reviews the epidemics of pneumonia which have been recorded, and adds a few other instances which have come within his own experience. His most important conclusions are as follows:

1. Pneumonia is a contagious disease of parasitic origin, and is transmissible either directly or by the intervention of a third person, or by inanimate objects, such as wearing apparel, etc.

2. The pneumococci are not destroyed by desiccation, and are diffusible through the air, but not to great distances, at most the interval between three hospital beds. They maintain their virulence for a period which has not yet been definitely determined, but probably never more than three years.

3. Contagion is possible during the entire course of the disease and even after recovery.

4. The period of incubation averages from five to seven days, but may vary between one and twenty.

5. Patients who have passed through a pneumonia are dangerous both to themselves and their neighbors as living micrococci may be found in their saliva many years after. Thence in part the epidemic appearance of the disease in certain families during long periods, and also its frequent recurrence in certain individuals who have once survived it.

6. Rigid quarantine of the patients seems unnecessary, but other patients and healthy persons should not be brought into too intimate relations with them. The sick-room must be kept well ventilated and clean, the sputum disinfected, and the cocci

lurking in the mouth destroyed so far as possible.—*Boston Medical and Surgical Journal*.

Magisterium Bismuthi in Infantile Summer Diarrhœa.—In the St. Petersburg weekly *Rüsskaia Meditzina*, No. 30, 1888, Dr. A. PUGINOFF says that subnitrate of bismuth constitutes the most reliable remedy for epidemic summer diarrhœa in nurslings. He gives the drug in large doses, feeling sure that a pure preparation is excreted *per anum* wholly and in an unaltered state. Thus, to an infant of 4½ months, he administers 1½ or 2 grains every 2 hours. The main advantages of the subnitrate over all other means are stated to be these: 1. The drug does not give rise to any untoward accessory symptoms. 2. It is readily taken and perfectly well borne. 3. It acts on the intestinal tract both as a sedative and as an antiseptic.

Tuberculosis from Contagion.—At a meeting of the Finnish Medical Society at Helsingfors, Sept. 22, MR. RYNEBERG reported a case of tuberculosis undoubtedly caused by contagion. The patient was a peasant, 39 years of age, who had an untainted family history, and showed in his own constitution no tendency to phthisis. Two years ago he was in perfect health; but the symptoms appeared a little after the death of his wife from consumption. He had occupied the same bed and nursed her during an illness of several years.—*The London Medical Recorder*.

Gluten as an Article of Diet.—Dr. WOLTERING strongly recommends (in the *Allgem. Med. Central-Zeitung*) the use of gluten as an article of diet, on account of its great nutritive qualities and its very low price. By means of tables of analyses he shows that pure gluten bread is about three times as nourishing as meat, and that bread made with 40 per cent. of pure gluten contains more albumen than the best hare or chicken.

¹ Arch. Gén. de Méd. 1888, May-July.

EDITORIAL.

**THE ILLINOIS STATE BOARD OF
HEALTH REPORT.**

The fifth "Report on Medical Education, Medical Colleges and the Regulation of the Practice of Medicine in the United States and Canada: 1765-1889," has been recently issued by the Secretary of the Illinois State Board of Health. There are many good things to be said of this Report. In the first place, it should be a matter of self-congratulation on the part of the people of the State that this is not only the only report of the same or similar nature issued in this country, but it is recognized as a valuable work of reference in all parts of the world. Chiefly by its work in raising the standard of medical education, in exposing "diploma mills," and in tracing up and prosecuting quackery, the Illinois State Board of Health has made itself a power that is felt over the United States and Canada, and even in far-away Australia.

It is pleasing to be able to say also, of this Report, that it is the most encouraging one ever issued by the Board. It shows that there is more promise of the raising of medical education to the desired standard than ever before, and that the Board and they that have spent so much time and written so much in the cause of higher medical education have not labored in vain. The Report says: "As to medical education in this country, the general drift of opinion to-day is decidedly in favor of the extension of the period of medical study to four years, and of attendance upon lectures to three full terms, with ample hospital practice and clinical instruction."

It is well known that the Board has passed the following resolution in regard to four years of study and attendance upon three courses of lectures:

"That the phrase, 'medical colleges in good standing,' in the first section of the

'Act to regulate the Practice of Medicine' in the State of Illinois, approved June 16, 1887, is hereby defined to include only those colleges, which shall, after the sessions of 1890-91 require four years of professional study including any time spent with a preceptor, and three regular courses of lectures, as conditions of graduation, and shall otherwise conform to the Schedule of Minimum Requirements heretofore adopted by the Board." To the "four years'" clause we have the serious objection that the time spent in so-called professional study before the student enters college is practically wasted time. As a matter of fact, preceptors do not teach students; the student may register under a preceptor, and obtain a certificate of one year's preceptorship, when he has spent his time entirely otherwise than in professional study. Half a century ago the preceptor did teach his student; now, in the vast majority of cases, he does not. The rule of the Board, therefore, is an incentive to deception. It would have been better had the Board left out the four years' clause, or else demanded four years' attendance upon lectures and at clinical work. The time for demanding four years of study in the colleges has not come, we think; meanwhile it is best, in our opinion, to demand simply three years of study in the colleges, without reference to so-called "previous study under a preceptor."

While we may not be in accord with "the general drift of opinion to-day," we believe that we stand on firm ground in this matter. Four years of college work is inevitable, and the sooner we get to it the better for the medical profession and for the people. Clinical teaching, which is by far too much neglected in this country, is neglected for want of time. "The difficulty," says Professor Wm. Osler (*Journal of the American Medical Association*, March 23, 1889), "lies entirely in the short three session course. The students, teachers and pa-

tients are here, and there is no reason why Philadelphia, New York, Boston, Baltimore, Chicago, St. Louis and Cincinnati should not have clinical teaching just as thorough, and just as systematic as is given to-day in Edinburgh, or on this continent, in Montreal. Large classes, in large cities with ample hospital facilities, can be perfectly well managed. The lack of a fourth year is the only obstacle."

The rule of the Board to which we object is a step in the direction of a four years' course. Already a number of colleges have announced that they will conform to this rule. We have no objection to proper steps in the direction of a four years' course, but our objection is to the manner of taking the step.

Unfortunately there are some colleges that are not affected by the regulations of the Illinois Board. We refer more particularly to some in the South and in the far West, from which graduates do not come before the Illinois State Board of Health. Unfortunately, too, these colleges do not fall under the restricting influences of any other similar board.

Probably one of the strongest arguments in favor of a higher standard of medical education to be found in the Report is the fact that of the 267 medical institutions (not including preparatory schools) embraced in the Report, only 131 are now in existence. And the fact that Canada has one extinct medical school, and the United States 130, seems sufficient to show that the methods of medical education are better in Canada than in the United States; and it would be a matter of congratulation if more were extinct, since the *raison d'être* of many of them is not apparent. In Germany twenty medical schools are sufficient for the forty-five million people of the country, and for students from all over the world: but in this country ninety-three, it would appear, are required for sixty million people. One thing, however, seems certain: there is an increas-

ing demand for better work on the part of the colleges; and the colleges that do not meet this demand must close their doors. The Report shows that there is an increased number of medical schools that have recognized their duties, but there are some that seem to be still "wedded to as low a standard as is at all compatible with even scant recognition by the medical profession."

On the whole, as has been said already, this is a very encouraging Report.

PHYSICIANS AS EXPERTS AND COUNSEL.

JUDGE WILLARD BARTLETT, of the New York Supreme Court, recently read a very interesting paper on "Some Relations of Scientific Experts to the Administration of the Law," before the Medico-Legal Society of New York. One thing that Judge Bartlett specially emphasized was that physicians should not act as experts and counsel at the same time. "The wise doctor, as it seems to me, will take care not to act in both capacities. If he is to testify in the case he will not act as assistant counsel; if he acts as assistant counsel he will keep off the witness stand. There is no good reason why the most distinguished physician should not place his professional knowledge at the service of one of the parties to a litigation which involves questions of medical science. To do so cannot justly subject him to reproach, but it does lessen his fitness and his usefulness as a witness in that litigation. In assisting counsel he will inevitably come to share the sentiments of counsel as to the result. Just as counsel will seek to bring out every fact that may prove beneficial to the cause of his client, and will endeavor to destroy, as far as may be, the effect of any proof which is injurious to him, so the medical man thus employed will suggest questions for the examination of witnesses on his own side, and for the cross-examination of witnesses on the other side, which will call out answers favorable to the party at whose instance he has been brought into the case.

All this goes on before the jury, who fully comprehend where the medical questions really come from. If afterward they see the doctor take the witness stand it is impossible that they should regard him as otherwise than prejudiced. However truthful his testimony may be, and however correct his opinions, his evidence is the evidence of a partisan, and this fact invariably detracts from its force and effect. When, therefore, a litigant or his lawyer applies to a physician or surgeon for assistance as an expert, the medical man should first ascertain whether it is desired that he shall be a witness in the case or shall act as adviser to counsel. If he be asked to appear as a witness he should carefully abstain from seeing the injured person or examining into the circumstances upon any agreement or understanding that his right to compensation for so doing is to depend upon the conclusion he reaches. I have reason to believe that cases are not unknown in which the counsel for the plaintiff has said to the physician: 'I think my client's injuries are serious and that he will never be a well man again. Go and see him for me. If you find he is not permanently hurt I shall not expect you to charge me anything for making the examination; but if you conclude that his injuries are incurable I will call you as a witness on the trial and pay you handsomely.' "

Of course no honorable physician will accept such a proposition as this; he will insist that his compensation shall not be dependent upon the opinion he may form. His services are worth just so much, whatever his opinion may be. The physician that conforms to the honorable course is always prepared for the most severe cross-examination; and if in the cross-examination the fact is brought out that the party by whom he was called agreed to pay him for examining the injured person, whatever might be the opinion formed by the examination, this evidence will be of great weight with the jury. The attitude of the

medical man called as an expert should be as nearly impartial as possible. His sole desire should be to be true in his statements of fact, and sound in his expressions of opinion.

"It is well known that many railroad companies," says Judge Bartlett, "employ medical men continuously under salary to investigate all cases of personal injury which occur upon their lines, and to assist in the trial of the lawsuits to which such casualties give rise. The testimony of these witnesses is much less weighty and effective with a jury than the evidence of physicians called in for the particular case only, and I have more than once heard counsel ask: 'How long would the doctor continue to be employed by the railroad company unless he always testified in its favor?' Physicians thus permanently employed to treat accident cases are also peculiarly exposed to damaging cross-examination. But I have no disposition to criticise railroad companies or other corporations upon whose property accidents are liable to occur for employing physicians to protect them against false or exaggerated claims on account of personal injuries. Indeed, they are also instrumental in procuring the adjustment of well-founded claims, and no doubt hundreds of suits are settled every year upon the recommendation of the medical advisers of railway corporations. Instances sometimes occur, however, of gross invasions of private right by physicians so employed, who have been known to force their way into the houses and to the very bedsides of injured persons, without regard to the protests of their families, in order to ascertain the extent of the injuries immediately after they were inflicted, and to prepare themselves to testify on the subject if a suit should subsequently be brought. These trespasses are committed only against people in the humbler walks of life, who hardly know that they can rightfully expel the intruder under such cir-

cumstances. They are wholly without justification or excuse, and it is satisfactory to find that juries pay but little attention to medical testimony founded upon these unwelcome visits. In his well-known *History of the Criminal Law of England*, Sir James Fitz-James Stephen, one of the most distinguished judges of the High Court of Justice of the present time, suggests a course of conduct on the part of the medical witnesses in accident cases which he thinks would do away with the reproach which attaches to expert testimony because the witnesses are so often merely counsel in disguise. 'If medical men,' he says, 'laid down for themselves a positive rule that they would not give evidence unless before doing so they met in consultation the medical men to be called on the other side, and exchanged their views fully, so that the medical witnesses on the one side might know what was to be said by the medical witnesses on the other, they would be able to give a full and impartial account of the case which would not provoke cross-examination.' He truly observes that such a practice implies a high standard of honor and professional knowledge on the part of the witnesses called to give evidence, and the suggestion would seem almost Utopian, were it not that the writer adds: 'For many years this course has been invariably pursued by all the most eminent physicians and surgeons in Leeds, and the result is that in trials at Leeds (where actions for injuries in railway accidents and the like are very common) the medical witnesses are hardly ever cross-examined at all, and it is by no means uncommon for them to be called on one side only.' This is the best possible answer to the objection that the plan assumes a higher standard of conduct than is practicable. Experience has shown that it does not; and what English medical men can bring about in the borough of Leeds, American medical men ought surely to be able to accomplish."

Judge Bartlett then spoke of the laws in regard to the commitment and confinement of the insane. A physician is not justified, he says, "in certifying to the insanity of a person he is called to see, simply because some member of the patient's family gives him a long history of the hallucinations of the invalid, or because some other doctor assures him that the man is mad. He must examine into the case himself to the best of his ability and in the light of all the medical knowledge he possesses. If he does this he will incur no liability even for an erroneous judgment. If he does less than this, and certifies that a person is insane who turns out to have been sane at the time, he can be held responsible by the injured party. Too much care can hardly be taken by physicians in the preparation of lunacy certificates, or by judges in passing upon them when presented for approval. In my opinion the judge should always require the attendance of one of the physicians before him, if not both, and should personally inquire as to the facts in addition to the matters set out in the certificate. I am aware that some physicians deem it a hardship to be compelled to attend court for this purpose, but such should let others act in their stead. The approval of the certificate by the judge was not intended to be only a formality. In fact, no act in the administration of this portion of the lunacy laws can properly be deemed a mere matter of form. The popular distrust of the management of lunatic asylums, however, has always been so great, and the horrors attending the incarceration of a sane person in a mad house appeal so vividly to the imagination, that the State could well afford to do something to assure the public from time to time that none but lunatics are prisoners in these institutions. This might be accomplished through the supervision of the courts, to whose care the interests of all persons of unsound mind are expressly committed by statute. If in each of the five judicial departments into

which the State is divided the Supreme Court were empowered to appoint a qualified expert in insanity every year, whose duty it should be personally to examine every person imprisoned as a lunatic within that department and report the results of his examination to the court, it would be rendered tolerably certain that no abuses were being perpetrated, and the assurance would be worth all it might cost in the way of compensation to the five physicians for their services."

SOCIETY REPORTS.

CHICAGO MEDICAL SOCIETY.

Regular Meeting December 27, 1888.

THE PRESIDENT IN THE CHAIR.

DR. J. R. BRANDT read a paper on

DIPHThERIA MALIGNA.

He said: When I state that in 1881 in Buda Pesth there was an epidemic during which 43,000 persons were attacked, and 19,000 died, nearly 45 per cent., none recovering under fifteen years of age; and that in 1883, in New York city, there were 3,502 cases and 2,090 deaths, or over 59 per cent., we must conclude that the study of this disease alone is of sufficient importance to require and demand the fullest attention of the medical profession, and we should search continually for a prophylactic or a remedy.

In regard to diagnosis, it may seem as though little is required to be said, as the diagnosis is frequently made by the laity before the physician is called. Some eight years ago I thought I had made a discovery of several prodromatic signs in diphtheria. Since then I have gone on making careful investigations, the results of which prove that I was correct in my impressions. At that time I made note of my alleged discoveries and published a short notice in their regard in the *Medical Record*, of which the following is a copy: "In February, 1881, Dr. J. R. Brandt, of Robinson,

Wis., writes: I wish to state for the benefit of the profession that in examining members of families suffering from diphtheria I have found in several of those not afflicted a notable fall of temperature, from half a degree to a degree and a half, and a noticeable slowness of pulse, irregularity of the heart's action, loss of beat every 3", 5", 7", or 3", 9", 14", from 12 to 36 hours before there was any other exhibition of the disease—such cases I have found to be malignant." My rule is to carefully examine each member seemingly unaffected, as to temperature, action of heart, pulse, and complexion of fauces. I leave a thermometer with a well-instructed person with orders to take temperature every hour, night and day, either in groin, axilla, mouth or rectum, and keep a record of same until I come again, always making two or three visits a day, even if I have to neglect other work. Then when I find two out of three of these symptoms exhibited I begin treatment at once. I have since 1886 had 149 cases which exhibited these symptoms, and I have been able to save all but one, which case was tubercular.

In regard to surgical therapeutics, caustics, such as argenti nitras or hydrochloric acid fortier are only mentioned to be condemned. Blistering the neck and chest by using any vesicants as counter irritation only give a larger surface for developing an exudate and poisoning the system. Sprays in my hands have not given satisfaction that others claim. I have seen several cases of broncho-pneumonia induced by the use of the spray; even an antiseptic spray softens the membrane and small particles are carried by inhalation into the air vesicles, plugging them and establishing centers for spreading the disease, and these particles also produce mechanical obstruction and prevent oxidation of the blood. Other particles are swallowed and interfere with digestion. They also may be absorbed and carried into the circulation. The same reasoning

is eminently true of inhalants. Irrigation when applied to the nasal cavities is of incalculable advantage, as nasal diphtheria is very fatal on account of the large surface attacked and their lymph communication with the rest of the body. (Jacobi) I take a household syringe and attach it to a soft, hollow bougie and introduce it into the nasal cavity, horizontally if the patient is sitting, and perpendicularly if lying in the nurse's lap, gently compressing the bulb and turning the bougie so that the stream from it will be applied to different parts with sufficient force to dislodge portions of the membrane and force them out and bathe the surface with antiseptic fluid. I like this better than the rubber open at the end, by using which you may force particles down the throat which should be avoided. I use for this purpose bichlo. sol. 1-5000, warm, and every three and four hours, or even every hour for a time, endeavoring to keep an open passage. I use at one time from 4 to 6 ozs. in each cavity; nothing will reduce adenitis as irrigation. Gargles have never in my hands been of any advantage and I gave them up long ago.

I have never seen a patient recover on whom tracheotomy had been performed after crepitant and subcrepitant râles had developed at the base of the lungs. If not allowed to operate before this condition arises I decline to operate, for we only prolong the sufferings of the patient. I believe tracheotomy should be prophylactic, the same as in medical therapeutics. Throw the responsibility on the relatives and friends and give a very guarded prognosis, even when the operation is done early. As to intubation, much is now being said in its favor, and in feeble and young patients it is giving satisfaction, but in malignant cases, such as this article refers to, I prefer tracheotomy. In intubation portions of false membrane may be forced down the trachea, or the tube come in contact with the membrane and hold in situ,

where it will be absorbed; the tube, by pressure, may cut off circulation at that point and increase the putrefying surface. Should the tube become plugged from below, there is danger of suffocation before an expert might be obtained to remove it, as in tracheotomy an expert can remove the canula at once. In cases (as Dr. Parker, of London, has pointed out) in which the dry epiglottic folds have become tumefied, it is impossible to introduce the tube. Admitting this to be awkwardness, it only shows that time and practice will have to be taken to make one an expert, for expertness is most certainly required to make this procedure a success.

Dr. Waxham has reported 160 cases with 44 recoveries, making 28 per cent. of recoveries, of 1,072 tracheotomies performed in various parts of the United States. There have been 287 recoveries, or 27 per cent., which look favorable for tubage, but I think before giving statistics we must have more intubation. I believe the better way would be to intubate in non-malignants, and to perform tracheotomy in malignants; always intubate early or not at all.

In the treatment of patients with diphtheria, there are several hygienic rules I strictly enforce: first sequestration if it can possibly be done. In farming districts I utilize the barns, smoke-houses and granaries, in winter; in summer and fall I improvise tents. I give them earthen floors if possible, I never allow the wooden floors to be washed, but have them sprinkled with a bichloride solution every six hours, 1-1000. Plenty of fresh air constantly passing through the rooms, the drinkable water always boiled, and afterward cooled by surrounding it with ice in vessels. Milk I order boiled and treated in the same way. I never allow the patient to take one step under any circumstance; they must always be carried or handled in such a manner that they will make no exertion. I make from three to six visits each day, personally

and carefully examining their throats, using a head mirror at night and always wearing glasses to protect my eyes. With malignants I have remained for seventy-two consecutive hours. I will not leave a case until some suitable person can be obtained and whom I have personally instructed. During the epidemic in Wisconsin, which lasted from 1876 to 1880, I used every remedy which gave any reason for success, mentioned in the current medical literature of the day, and I have found much more to condemn than to approve; so many were worse than worthless that I will give only those which have proved to be of the most value in my hands, and the manner of using them. I advise general and local treatment, as I consider it a systemic disease with local manifestations. The use of alkalines was very unsatisfactory, but the reason is patent when we reflect that putrefactive changes take place with great rapidity in alkaline albuminoids, and less when there is an acid. Acid retards putrefactive changes, and so does alcohol, and herein lies the reasons for rational treatment. In malignant cases I give acids to antagonize the changes going on and producing ptomaines; I give alcoholic stimulants which also retard putrefaction and degeneration, and give food, best milk, or milk and coffee, cream and coffee, anoint with cream and whisky the whole body every six hours. Give rectal injection of the most easily digested foods to make new blood to supply the economy which is below par. The ptomaine may be eliminated or oxidized. The inhalation of oxygen is worthy of trial where it can be done, and I have been pleased with its effects; it acts both as a destroyer of the ptomaines and retards putrefaction. I use tr. ferri and the bichlor. hydrag. after the following formula for an adult:

Tr. chlor. iron..... $\bar{3}$ iv.

Bichlor. mercury.....gr. i.

Syrup simple to..... $\bar{3}$ iv.

Sig. One teaspoonful every two hours.

Alternate with

Hydrochloric acid dil..... $\bar{3}$ iv.

Com. tr. cinchon..... $\bar{3}$ iss.

Syr. sim. to..... $\bar{3}$ iv.

Sig. Teaspoonful every two hours.

In a few moments after each I give whisky mixed with water and sugar from 1 to 3 teaspoonfuls, in a moment after I give $\frac{1}{4}$ of a teacupful of milk that has been boiled and cooled in ice. This treatment I continue for from 24 to 72 hours, depending upon the gravity of the case, when I give a little more time, *i. e.* one hour and a half for 24 or 36 hours, and if all is doing well I then alternate every two hours until recovery. When I find an exudate on the tonsils I touch it with a solution of subsulphate of iron, one half, and bichloride of mercury, one-half, 1 to 250, using a camel's hair brush; applying this preparation every two hours just previous to administering the iron mixture; immediately I remove all the shreds of membrane I can, even using dissecting forceps for the purpose; then on this surface I again apply the above antiseptic solution. I have greater dread of the superimposed layers of putrefying membrane being absorbed and completely saturating the system, and producing more ptomaines, than I have of doing harm by more or less irritating these parts. All agree that the removal of the putrefying membrane from the nasal cavities by irrigation is good treatment; if good for one why not for another part? In malignant cases that do recover the patients should not be allowed to leave their bed for three or four weeks, and watched carefully for heart failure. Malignant diphtheria in tuberculous subjects is nearly always fatal. Malignants develop mild forms in others and the converse; these deductions I have derived from, and after having treated and recorded in the last twelve years 2,600 cases.

There are certain precautions necessary to be taken by the physician, and first I deem it criminal for a physician to attend

cases of confinement while in attendance upon either scarlatina, diphtheria or erysipelas. As I have found dogs and rabbits infected with diphtheria, I think all pets should be removed from the house at once, as the more pets the more sources of infection. In all cases of nursing infants, to medicate the mother is to save the child, that is, if the child will take the breast, and they will take the breast in most cases where they will refuse every thing else. Powders have not been satisfactory except when applied to the exudate found on the genitalia of females,*and here calomel and tannic acid has been of great benefit. Pilocarpine has been followed by such extreme exhaustion that I deem it too hazardous to risk. In heart failure I depend upon alcoholic stimulants and rest, not allowing the patient to make any exertion whatever. Digitalis is so poorly borne by the stomach that I give it *per rectum* or hypodermically; I never use digitaline. Camphor and carbolic acid in equal parts applied to the exudate was not as satisfactory as subsulphate of iron and bichloride of mercury. I have shortened the course of many cases by giving one full dose of calomel at the time of my first visit.

DR. F. E. WAXHAM: I have listened with pleasure and profit to this valuable paper, but cannot agree with the author in all his conclusions. The title of the paper is "Diphtheria Maligna." It is often difficult to draw the line between malignant and non-malignant diphtheria, to state where one leaves off and the other begins. I make three classifications of the disease, the mild, the semi-malignant, and the malignant, styling those cases malignant that are characterized by alarming symptoms, by great depression and by a rapidly fatal termination. I believe that those malignant cases that recover are very few and far between. The line of treatment I have found most useful in the management of malignant cases has been the frequent use of bichloride of mercury, alternated

with tincture of iron and glycerine, the use of a gargle of bichloride of mercury in dilute alcohol, or, where the patient cannot gargle, the use of the same solution, by the atomizer; free stimulation, abundant nourishment and appropriate treatment of the nasal cavities. Under this treatment I have seen semi-malignant cases, that promised rapid development into malignancy, yield and gradually recover. The fault I usually find is that the medicines are not given with sufficient frequency. The bichloride of mercury should be given at least every hour, alternating with the tincture of iron, so that the throat will be bathed at least every half hour with these solutions. I do not believe that it is best to harrass the patient by the frequent application of solvents to the diphtheritic membrane,*for I have learned not to fear diphtheritic membrane as long as it does not invade the larynx and is frequently bathed with antiseptic solutions.

In regard to the surgical treatment of malignant diphtheria, we may well say that it is of little or no avail. In the semi-malignant forms, intubation will save many, but in the very malignant forms of diphtheria I believe that intubation, tracheotomy or any other surgical measure is entirely useless as far as saving life is concerned. I remember two years ago I attempted to perform tracheotomy in a case of malignant diphtheria in which the larynx had become invaded. Almost with the first breath of the anæsthetic, the respiration ceased and the child was dead before the first incision was made.

I should, perhaps, say a word in regard to the prevention of malignant diphtheria. Inasmuch as the medicinal and surgical treatment of malignant diphtheria is discouraging, the preventive treatment is of corresponding importance. It, however, is oftentimes a difficult problem to know how we shall prevent the spread of malignant diphtheria, especially when it occurs in the homes of the poor and among the over-

crowded. We will frequently be called to a case of malignant diphtheria, where the child, coming down with the disease, is surrounded with six or eight other children, and we will usually find them crowded in two or three small rooms, and usually two or three of the well children will be sharing the bed at night with the patient.

It becomes impossible to isolate these patients on account of their crowded condition, and very seldom indeed are the friends able to send the healthy children away from home, because they have no friends or relatives who will take them, and there is in this city no hospital where poor patients will be received when suffering from diphtheria. True, if patients have an abundance of means, they can secure a private room in any of our general hospitals, but poor people, who have not means, find it impossible to gain admission to any of our hospitals in Chicago. I have been informed that a young woman with diphtheria recently made application to our County Hospital, but she found it impossible to gain admission—and sick, destitute and penniless she was turned out upon the street.

I hope the time is not far distant when our commissioners will establish a pavilion for infectious diseases, or, this failing, I hope a hospital will be established in Chicago for the exclusive use of these diphtheritic patients. If we send the first patient that comes down with diphtheria to such a hospital, we will frequently be able to prevent the other children from contracting the disease. Indeed, I believe if we had such a hospital, where patients could secure careful nursing and skillful treatment, that it would be overcrowded, and we should be successful in saving many patients and very greatly lessening the mortality from this disease.

DR. J. H. CHEW read a paper entitled

DEVENTER'S METHOD OF DELIVERING THE
AFTER-COMING HEAD.

A year or more ago a member of this

society, while "pondering over many a quaint and curious volume of forgotten lore," discovered the lost art of delivering the after-coming head by the method practiced and referred to by Deventer, over 160 years ago. In a paper read before the International Medical Congress in Washington, Dr. Bartlett described this as differing from the usual method in the following points: As soon as the child has passed so far as the base of the thorax, extractive efforts are to be made, the woman resting on her back, not in the line of the body of the parturient, but in a direction perpendicular to the floor. When the arms are within reach we are not to stop and draw them down, a thing often difficult to perform and requiring much time; but to examine and see that they are extended by the side of the head and in front of the parietal protuberances. We are then to make forcible traction in the same direction, at the same time urging the mother to bear down with all her power, and if necessary, we are to make pressure upon the occipital end of the head as nearly behind the anterior wall of the pelvis as practicable. The occiput appears under the pubes and the delivery is accomplished with the head in forcible extension instead of flexion. I have been fortunate in delivering by this method, and thereby, I believe, saved the life of the child and spared the mother many minutes of suffering.

I was called the night of October 3, to attend Mrs. S. in labor at eight months: The child presented by both feet, and the labor progressed satisfactorily until the shoulders were delivered—the arms were delivered with the shoulders. I endeavored to deliver in the usual way, but in trying to reach the chin found it high up and the head extended. We immediately placed the woman upon her side and I made traction directly backward, at a right angle to the axis of the mother's body, and then when the occiput appeared under the

pubes backward and slightly upward towards the mother's head, at the same time Dr. Wadsworth, who assisted me in the case, made pressure on the head just back of the pubes: in a few moments we had the pleasure of seeing the occiput glide from under the pubes and the delivery accomplished; and to my gratification and surprise—for I feared the traction had been carried to a dangerous degree—the child almost immediately cried out. The child was of average size and has flourished since, although bottle-fed. The mother's recovery from the labor was uninterrupted, although under the most adverse circumstances.

DR. JOHN BARTLETT: The case presented this evening by Dr. Chew and a similar one occurring in the practice of Dr. Wadsworth, are the only ones which have come to my knowledge within the year. It would seem at first glance surprising that experience in this mode of delivering the after-coming head is not gained more rapidly. A little reflection, however, will make it plain why Deventer's method is not more often put to the test. The whole tendency of the teaching regarding the management of head-last labors has been to mould the practice of the operator into a line of action the reverse of the one in question. The practitioner has been taught that one of the chief ills which may overtake an accoucheur in footling cases arises from the departure of the chin from the breast, the extension of the head. From education, and even from habit, his aim has been to prevent this departure of the chin and to secure the maintenance of the flexed attitude of the head. In the majority of the head-last cases occurring to experienced practitioners there is a fairly confident assurance that delivery will occur, or can be effected safely to the child, by the ordinary mechanism and methods. Under these circumstances the adoption *ab initio* of Deventer's plan savors too much of experimentation; so that the conservative

accoucheur, recognizing his obligation to his patients as paramount to questions of scientific obstetrical interest, delivers in the old way at the sacrifice of experience in the new method.

In ordinary cases, at least when the Deventer method is practiced in the cautious manner which the obstetrician would at first naturally adopt, it will be found that the extension of the chin will take place only so far as to lock the head in the pelvis so tightly as to lead the operator to desist from his purpose of delivering by the new plan. This want of success is not always due to difficulties inherent in the method. In good part it may be ascribed to the imperfect or inefficient practice of the plan.

The errors usually committed in attempting to deliver by the method of Deventer are: failure promptly to decide upon using that method and consequent delay in drawing the child downward; failure to regard Deventer's caution not to bring down the arms; failure to direct properly the traction, which is generally made directly downward, when it should be downward and slightly backward; failure to make sufficient extractive effort; failure to sway the body of the child from side to side; failure to secure the coöperation of the patient, by urging her to assist with all her power; failure to exert proper auxiliary pressure downward upon the head.

What, it will be inquired, is the result in the event of one's having tried the Deventer method and failed therein? Naturally the inexperienced in these efforts would have misgivings lest the second condition of affairs should be worse than the first. One might naturally suppose that the head would be found locked in the pelvis in the hitherto much dreaded attitude of extension. Such is not the case. According to my limited experience it is because the head is not in extension that delivery by the new method has failed. So far, neither my neighbors nor myself have

in anywise added to the difficulties of the case by having made an unsuccessful effort to deliver by the new method. In every instance, on the contrary, the delivery appears to have been advanced by the unsuccessful effort to end the labor by extension. The tractions made have brought the child lower, so that embarrassments as regards the arms have been lessened. Thus, in one case mentioned by Dr. J. W. Niles: whereas, prior to the traction, the doctor had been unable to bring down the arms, these fell down during his unsuccessful effort at delivery after the Deventer plan. And again, after such attempts, the head is found lower in the pelvis, especially as regards the occiput. Now, the end of the head-ovoid having been thus advanced apace, in our experience, the subsequent advance of the opposite extremity, the chin, by the old methods, has been decidedly facilitated.

The question has been asked whether in the present state of our knowledge of this method the practitioner be justified in attempting it in every case? Possibly a perfect knowledge of Deventer's method may finally establish it as the preferable mode of delivery; but in our present inexperience the question just put must be answered negatively. The method may be resorted to when the child is small, or when, as sometimes happens after turning, or in natural labor, as in the cases reported this evening, there is difficulty in delivering in the usual way, whether because the arms can not be brought down, or especially because the chin has departed from the chest in such a manner as to offer an obstacle to the ordinary procedure. A knowledge of the Deventer method even in the developmental state in which it now seems to be, proves a satisfaction to the obstetrician in attendance on a head-last case, for, should difficulty arise with the arms, he can draw the body down in the Deventer line with the confidence of bringing them within reach and delivering them, or, he can feel re-

assured, the chin being upward, in leaving them to be delivered alongside of the head. Formerly if the chin was found departed from the chest and "hooked up," as the expression was, over the brim of the pelvis, the practitioner regarded the situation as most serious, and even where unusual skill and experience enabled the operator to reverse the position of the head, or, failing in this, to successfully apply the forceps, the child was generally lost by delay. Instead of resorting to the older unsatisfactory method in such cases, he may now draw downward in the Deventer line, with good hope that the head will "shoot through easily."

Certain peculiarities of the pelvis, or of the head, may have a tendency to increase the difficulty of delivering by this method. In a multipara in the practice of Dr. J. M. Hall, in which the pelvis was large and the child small, everything promised success in the employment of this plan. Dr. Hall attempted the delivery exactly *secundem artem*, and yet the chin appeared before the occiput. In this case the head was hydrocephalic, large, round and soft, a condition which it is not to be doubted antagonized the efforts to secure a Deventer delivery.

It may be well here to caution the practitioner against too forcibly pressing the thorax of the child against the perineum, lest internal injury be caused thereby. Against the use of too great extractive force it is hardly necessary to give a caution. And yet the practitioner should have a knowledge of such facts, as the experience of Goodell and others teaches regarding what may be deemed an allowable degree of traction.

Smellie, in referring to Deventer's method, speaks of the head turning in the pelvis, but possibly the first step in this method may occur before the head enters the pelvis; namely, the catching of the chin on the pelvic brim, and the descent of the occiput in advance of it.

The more I see of the attempts to deliver by Deventer's method the more I incline to the opinion that in this form of delivery, as in head-first cases, the *sine qua non* of success is the early descent of the occiput. There is reason to believe that there was something in the manner of the execution of his method by Deventer which led to this early separation of the chin from the breast. Possibly the traction on the body of the child, recommended by Deventer, "so soon as it is out above half way," was so directed as to invite the very end in question, the arrest of the chin and the descent of the occiput in advance of it.

Hitherto in our experience, when the head has been locked in the pelvis from unsuccessful extractive efforts, its long diameters have been found resting in the conjugate diameter. Now, nothing would seem to be plainer than that the turning of the head on its long axis could take place more readily in an oblique diameter than in the antero-posterior one. In the one case, the surfaces resisting the extremities of the lever in our effort at extraction are the posterior face of the body of the pubic bones, and the anterior surface of the sacrum. In the other case they are the soft tissues overlying osseous lacunæ, the foramina ovalia, and the great sacro sciatic notches.

DR. J. S. KNOX: It strikes me, in listening to the paper and its arguments, that the purpose is to convince us that the best method of delivering the after-coming head, is by backward traction; causing extension of the chin, the upward passage of the arms, and descent of the occiput. It is beyond question that, with the chin flexed on the chest, the chin descending first, and the occiput last, the head rotating on the symphysis pubes, the child presents the smallest diameters and the most favorable engagement. Deventer's method, to excel, must present smaller cephalic diameters, and a more favorable adjustment to the maternal passage. I believe this to be im-

possible. It is a mistaken idea that in Deventer's method the chin catches at the superior strait and the occiput descends and glides under the pubic arch. It is a mechanical impossibility. The distance from the extended chin to the sternum is about two and a half inches, and from the promontory of the sacrum to the point of the coccyx over five inches. Of necessity then the occiput and chest of the child must engage in the pelvis together, in order to deliver the occiput. This is impossible.

In Deventer's method, therefore, the after-coming head must pass through the superior strait, in a flexed position, until the throat of the child reaches the perineum. Backward traction will then fix the chin and bring down the occiput, accomplishing its delivery under the pubic arch. To do this, however, the longest diameter of the head, the occipito-mental, must sweep through the oblique diameter of the maternal pelvis. What is the advantage in substituting a cephalic diameter of $5\frac{1}{4}$ inches for one of $3\frac{3}{4}$? Deventer's method undoubtedly has its place. In those cases where injudicious traction has been made on the body, and the chin has extended, and the arms passed up, this method will afford a much easier delivery of the head. I have carefully studied Dr. Bartlett's paper presented to the International Congress, and have a high regard for his obstetric opinions. But why we should provoke a malposition, and then hunt for a new method of delivery, I cannot see.

DR. FRANK CARY: Dr. Schwandt has tried this method in my service in St. Luke's hospital, and I was very favorably impressed with it.

DR. E. J. SCHWANDT: The two methods, I think, are quite different. The method referred to by Dr. Cary was in two or three breech presentations which occurred while I was serving in the obstetrical department of the hospital. Before this method became generally known I did as I was taught

in my earlier days, I maintained firm pressure on the fundus uteri and thus prevented extension or departure of the chin from the chest and unfolding of the arms. I therefore concluded to deliver, in the next breech presentation, by the method now under discussion: taking the body of the child, the arms being unborn, and drawing it strongly backwards so that the abdomen of the child came in contact with the buttocks of the mother, paying no attention whatever to extension of the head and unfolding of the arms. In that way I noticed the occiput being born with the chin and arms extended—the occiput slipping out under the symphysis pubes. Furthermore the perinæum is not usually ruptured as one might suppose by this method and birth is easy.

DR. ROSA H. ENGERT: This is the first time that I have heard of Dr. Bartlett's method, but I am very much pleased to find that it is the one that I have employed as long as I have been in practice. Once I did not succeed in getting the child alive and after that I practiced on the phantom to find a better way of getting the fœtus out, and found that it was the most natural way to draw the body of the fœtus toward the back of the woman, she being in a side position, the head then passing through very easily, in the smallest diameter, with the occiput coming out first from under the pubes.

DR. JOHN BARTLETT: If Deventer's statements are to be believed, and Smellie's interpretation of that author's plan is to be accepted, delivery with the occiput foremost "sometimes succeeds better than the other method." Dr. Knox's success in delivering living children in head-last labors, by the accepted modes, is certainly very exceptional. According to statistics cited by Zweifel, in 3,475 versions the mortality to the child was nearly 59 per cent. I have taken a very conservative position in the matter of employing the "new" method. I am not convinced that Deven-

ter's plan is yet fully understood. There is, however, certainly enough of evidence in favor of the method as described by Smellie to warrant us in trying it in proper cases.

There is one point in the method of delivery according to Deventer, which has not been touched upon here, and which should be duly considered because it is one of those mechanical conditions in which this plan seems to offer a great advantage over the accepted modes of delivery. When we try to extract the head by ordinary modes, the arms being extended alongside of it, our efforts tend to flex the head and to force it as a wedge more and more firmly between the arms, which thus *key* it in the bony ring of the inferior strait. In the Deventer plan, on the contrary, the movement of extension releases the wedge from between the arms, these slipping more and more over the face of the child, so that the head is delivered before them. I call your attention to the further fact, that while in the ordinary method of delivery the extended arms are crowded towards osseous tissue, in the plan under discussion they are pressed against less unyielding structures.

Regular Meeting, January 8, 1889.

THE PRESIDENT IN THE CHAIR.

DR. F. S. JOHNSON read a paper entitled

PATHOLOGY OF DIPHTHERIA.

Diphtheria is an acute specific infectious and contagious disease, with local and general manifestations and characteristics. The local lesions are found in the upper air passages, especially in the pharynx—but also in nose, larynx, trachea and deeper parts of the respiratory tract. These may, however, occur primarily in other parts of the body. The general manifestations are fever and concomitant symptoms. The local manifestations are inflammation and the formation of a false membrane on the surface, or in the superficial portions of the tissue.

From the clinical standpoint, it is difficult to say whether diphtheria is primarily a general or local disease. The general symptoms usually appear before the local trouble is manifested. On the other hand, the local trouble sometimes exists with scarcely noticeable general symptoms. The poison seems to usually gain access to the body with the inspired air.

By analogy, the pathogenesis of the disease is at the present time commonly attributed to micro-organisms, although no form has yet been found to satisfy the conditions formulated by Koch, and held by all experimenters as necessary for proof, viz: Micro-organisms are sometimes found in the kidneys, but according to Birch-Hirschfeld only in cases of severe sepsis.

First.—The micro-organism must be present in all cases of the disease.

Second.—Pure cultures of this micro-organism must be capable of producing the disease.

Third.—The micro-organism must be found in the tissue of the animal in which the disease is experimentally produced.

No one form has yet been found to be invariably present. No form has been found which always produces the characteristic phenomena of the disease and which does not give rise to other forms of poisoning. In experiments upon animals the results of inoculation have, in most instances, either been negative or more nearly resembling the phenomena of pyæmia and septicæmia. All the forms found in diphtheritic membranes have been found in the human mouth under normal conditions. The recent researches into the mode of action of micro-organisms in disease have led to a change in the generally accepted views upon the subject. It is now held that micro-organisms do not in themselves act as poisons, or to any extent mechanically by forming capillary emboli, but that by the splitting up of proteid substances they produce ptomaines and set free fer-

ments, and that these are agents in the causation of disease.

Anatomically classified, the local phenomena of diphtheria are:

Catarrhal inflammation.

Croupous inflammation.

Diphtheritic inflammation.

Topographically classified, the disease is diphtheria when it occurs in the pharynx and nose; croupous or laryngeal diphtheria when it occurs in the larynx.

It is proper here to mention other specific disease forms with similar or identical local manifestations:

Diphtheritic inflammations, occurring in the course of the exanthematous fevers.

Wound diphtheria.

Dysentery.

Puerperal Endometritis.

Diphtheritic Cystitis.

Etiologically considered, there may be as many forms as there are agents capable of destroying tissue and exciting inflammation.

In extremely mild cases the local changes are indistinguishable from those of simple catarrhal inflammation, and anatomically they belong to this class. The damage to the mucous membrane by the specific poison is here not sufficient to destroy any part of it, but simply to excite a moderate inflammation. And under these conditions the exudations from the blood-vessels in reaching the surface is filtered through the epithelium of the mucous membrane and is thereby rendered non-coagulable, and is removed from the parts affected in the same manner as are the normal secretions. In these cases there is no false membrane, though the cause is the specific poison of diphtheria. To what extent these mild cases occur it is impossible to say, because the presence or absence of a false membrane usually determines the diagnosis.

The false membrane or diphtheritic membrane is the result of combined inflammation, tissue death and coagulation within the densely infiltrated tissue. The thick-

ness of the membrane varies with the depth to which the tissue is destroyed. The essential anatomical distinction between simple catarrh and diphtheritic forms of inflammation of mucous membranes lies in death of the tissue, especially of the epithelium.

When the epithelium has been removed in whatever way, inflammatory exudations upon the denuded surface will coagulate, thus forming a false membrane. The destruction of the epithelium by chemical agents and heat is followed by the formation of a coagulum upon the surface; or in other words, a false membrane.

Anatomically, there are two varieties of pseudo-membranes—croupous and diphtheritic. In the former the epithelium only is destroyed, and the depth of the pseudo-membrane is limited by the basement membrane of the mucosa. In the latter the underlying tissues also suffer death. Mucosa, sub-mucosa, and even the deeper tissues, are involved in the formation of the pseudo-membrane.

In the pathological processes, the etiological agent, viz: the diphtheritic poison, is the prime factor. It seriously impairs the vitality of the tissues or destroys them outright. This injury produces inflammation, and the already damaged tissues are infiltrated and swollen by the copious exudation from the blood-vessels. Death of the entire mass soon follows, and with it coagulation. This coagulation of tissue and inflammatory exudate, constitutes the false membrane.

The greater the injury to the tissue, the deeper the processes reach and the more intense the inflammation. The character of the exudation depends upon this condition. In the milder forms the exudate is made up almost wholly of leucocytes and plasma; in the severer forms large numbers of red blood-corpuscles are extravasated, and the infiltration is more or less hæmorrhagic in character.

The diphtheritic membrane usually ap-

pears first upon the tonsils, sometimes upon the soft palate, or even in the nose, and not infrequently in the larynx. At first it is a thin, irregularly oval white or grayish patch, or even merely a lace-like layer of fibrinous shreds upon the surface. When fairly formed the membrane is tough and firmly adherent.

In croupous membranes the firmness of the attachments depends in a measure upon the character of the underlying mucous membrane. When this is closely adherent to the parts beneath, the pseudo-membrane is less easily cast off. Thus, in the larynx, pseudo-membranes are more firmly attached to the vocal chords and to the lower surface of the epiglottis than over other parts. As the local changes go on, the tissue becomes involved to a greater depth, and this extreme infiltration adds to the bulk of coagulable material. Thus, what began as a croupous membrane may become diphtheritic in character. As it undergoes degeneration it becomes yellowish and fatty. It is gradually cast off as a whole, or in shreds or layers.

In severer cases the coagulum contains a variable proportion of red blood-corpuscles, and the membrane is darker and greenish.

In the most severe forms the affection spreads rapidly from the beginning; the membrane is dirty, hæmorrhagic in appearance, and foul smelling.

Gangrene seldom occurs, and when present it is probably not due to the intensity of inflammatory processes, but to the direct effect of the virulent poison.

The false-membranes may sometimes, in all probability, be the seat of invasion by micro-organism capable of causing pyæmia or septicæmia. In these cases the individuals may suffer from this infection in addition to the existing diphtheria, in the same manner as though infected through any exposed wound. This condition may seriously complicate the symptoms of the primary disease. Gangrene, too, may be due to

other causes than the diphtheritic poison acting upon the already damaged tissues.

Histologically, pseudo-membranes consist of homogeneous flakes and strands and fibrinous threads, enmeshing leucocytes and red blood-corpuscles. Frequently the quantity of leucocytes is so great as to obscure the fibrinous coagulum. Remnants of the former tissues are also included in the membrane. As the membrane undergoes degeneration the fibrin becomes finely granular, and the appearance of a net-work is lost. The tissues immediately underlying the false membrane are densely infiltrated. On tearing off the latter, the surface is mottled red and pale; there are seen bleeding points, interstitial hæmorrhages and shreds, and masses of adherent and more or less degenerated pseudo-membrane.

The membrane may extend from the primary seat to surrounding parts, as from the tonsils to other parts of the pharynx into the eustachian tubes and the nose, seldom into the œsophagus; more frequently into the larynx, trachea and bronchi. When stenosis of the larynx occurs, there is varying acute emphysema of the upper lobes, and hyperæmia of the lower lobes of the lungs. If, when in this condition, the smaller bronchi are invaded or are closed by aspiration of bits of pseudo-membrane, there is occlusion of the bronchi and bronchioles, and consequent atelectasia and lobular pneumonia. These conditions rarely occur in the upper lobes, because of the emphysema and consequent anæmia. Under these circumstances, if air is freely admitted to the lungs by tracheotomy, the upper lobes are more readily infected.

With general infection of the body are associated more or less extensive pathological changes in the various tissues and organs. Some of these are manifested chiefly by derangement of physiological functions.

The anatomical changes result from the direct affect of the noxa upon the tissues.

The most constantly observed, secondary

local infection in pharyngeal diphtheria is that of the lymphatics behind the jaw, and the superficial glands of the neck. These are often highly inflamed and much swollen.

In laryngeal diphtheria the swelling of the superficial glands is usually absent, since the lymphatics of the larynx are more deeply situated, and swelling of them often escapes notice.

Hæmorrhages are common in the various organs, and from serous surfaces. The heart muscle and voluntary muscles undergo fatty changes. Waxy degeneration has also been observed.

In the kidneys, even in the lighter cases, there is cloudy swelling of the epithelium. In severe cases there is frequently glomerulo-nephritis, hæmorrhage, extensive degeneration of the epithelium in the convoluted tubes, and sometimes diffuse nephritis. The spleen is hyperæmic, the malpighian bodies often enlarged, as are the lymphatics of the body generally. In the mucous membrane of the alimentary canal the lymph follicles are often swollen: sometimes there is superficial ulceration. In the liver there is a more or less degree of fatty degeneration. Diphtheritic inflammation of the stomach seldom occurs, and then confined to the cardiac portion. In the brain and cord meningeal and parenchymatous hæmorrhages sometimes occur.

Klebs has found accumulations of micro-organisms in the perivascular lymph spaces of the brain, and Dejerine has found accumulations of white and red blood-corpuscles similarly situated in the spinal cord.

In three cases of extensive diphtheritic paralysis he found advanced degeneration of the nerve fibres of the anterior root, and degeneration of the ganglion cells in the anterior horns.

In most of the cases of paralysis the disturbance is referable to degenerative changes in the peripheral nerves.

DR. D. R. BROWER read a paper entitled
NERVOUS SEQUELÆ OF DIPHTHERIA.

The morbid phenomena left by diphthe-

ria in the nervous system are paralysis of motion and sensation, chorea, epilepsy, and insanity. These sequelæ occur more frequently in this disease than in all the other acute diseases combined, and they are always in the way of a favorable prognosis, for at least six weeks, no matter how mild the primary disease may have been.

Paralysis occurs in about forty per cent. of all the cases treated. It may commence as early as the second day of the diphtheria, but usually does not appear until the second or third week after the termination of the throat symptoms. This paralysis bears no direct relation, as to time of development or intensity, to the severity of the primary disease, or the previous health of the individual. A very mild case may be followed by the severest paralysis. It is much more frequent in adults; indeed, the older the patient the greater the danger; although it may occur at any time from two years upward.

The paralysis usually begins in the velum palati, the place of the primary morbid activities, being the place of the beginning of the nervous sequelæ. This produces a nasal tone in the voice, and a partial regurgitation of liquids through the nose during deglutition, and along with this motor impairment there is ordinarily anæsthesia. Paralysis of the pharynx is not so frequent as paralysis of the palate, but more dangerous, and it may be so severe as to make swallowing impossible. The superior laryngeal nerve may be paralyzed, producing anæsthesia of the mucous membrane of the larynx, and destroying, in part, the functions of the epiglottis; so that food is very liable to enter the larynx and trachea. If the particles are small they may reach the bronchi, causing pneumonia; if large, they may occlude the trachea and produce sudden death. The paralysis may also include the vocal cords, making phonation impossible, and so far interfering with respiration as to make intubation or tracheotomy necessary.

Paralysis of the accommodation of the eye, due to paralysis of the ciliary muscle, may occur, and will be overcome by the use of convex glasses. The motor-oculi nerve may also be paralyzed, producing diplopia, strabismus and ptosis.

Paralysis of the lower limbs may succeed that of the soft palate. The patient will first complain of numbness, formication, tingling and pain, and then, very soon, muscular weakness will be manifested. The loss of power is rarely complete, the condition being more a paresis than a paralysis, and with it there is usually ataxia. The case may at this time easily be mistaken for locomotor ataxia, especially when, as is usual, you find absence of patella tendon reflex. This ataxia will continue often for weeks after all paresis has disappeared. If the paralysis continues to advance, the upper extremities may next be involved, and here, as in the lower extremities, disorders of sensation usually precede those of motion—and ataxia is usually present here also.

The muscles of the trunk and neck, and the sphincters of rectum and bladder, may, later along, be paralyzed, although very rarely.

The diaphragm and heart are sometimes involved; the former, while grave, is not so serious as the latter. Heart failure is a cause of death in many of the malignant cases in the primary disease, but sudden death not infrequently occurs from this cause, after convalescence has been well established. This fatal accident is sometimes preceded by præcordeal distress, dyspnoea, slowness and irregularity of pulse, and badly accentuated heart sounds.

The earliest, most frequent and most persistent phenomenon of perverted nervous action, is the loss of patella tendon reflex. This may occur very early in the primary disease, but usually does not occur until the second week, and may continue several weeks after otherwise complete recovery.

The pathological anatomy of post-diphtheritic paralysis is yet uncertain. In some cases the lesion is without doubt a peripheral parenchymatous neuritis, in other cases the paralysis depends upon a poliomyelitis anterior; and more rarely cerebral hæmorrhage or meningitis is found as the pathological basis of the symptoms. These several lesions can not be present in the majority of cases, for the paralysis is often too transitory in its duration and too variable in its location, to be due to any fixed structural change in the tissue of the nervous system. The micro-organisms that constitute the materies morbi of the primary disease are the causes of this phenomena. Either directly by their presence in the nerve elements of the central or peripheral systems—or in the blood-vessels that supply them, or else they produce some poisonous products the more or less sudden development of which destroys or disturbs the functions of the nervous system.

The prognosis of the paralysis is favorable except it involves the muscles of deglutition, respiration or the heart. The sooner the paralysis occurs, the more unfavorable the prognosis. The duration of the sequæ is very variable.

The treatment of post-diphtheria paralysis must be tonic and mildly alterative, an abundance of easily digested nourishment, a moderate amount of alcoholic stimulants, and when there is paralysis of pharynx, epiglottis or upper part of the larynx, the early use of an œsophageal tube is demanded, as well as feeding by the rectum.

Strychnia should be used with some caution in the beginning of the paralysis lest by producing an undue determination of blood to the spinal cord we increase the pathological conditions. Iron and quinine will usually be of service from the beginning.

Mild alteratives, the iodides and mercury are indicated in the majority of cases, along

with the tonics, to stimulate the absorbents, and thereby hasten the removal of morbid products from the nervous system.

Electricity in the form of the *mildest* current that will produce muscular contraction is of service. In some cases the faradic current is sufficient, but more frequently the interrupted galvanic current is necessary for this purpose.

Massage will be of service if the paralyzed muscles are accessible to the manipulations.

DR. A. H. FOSTER read a paper entitled

THERAPEUTICS OF DIPHTHERIA.

Clinically we meet two varieties, the fibrous and the putrid. Generally the fibrous has no odor, or, if any, only a faint sour-milk smell, until fatal exhaustion and sepsis have supervened. When this occurs in the fauces or larynx, and is seen early, mercury, in frequent liberal doses, is my main reliance. The system in diphtheria, as in syphilis, seems very tolerant of mercury until an impression is made; then dosage by it must be guarded. While giving the mercury add nourishment and stimulants, such as whisky, and quinine by injection, if not borne by the stomach.

Bind turpentine and camphorated oil, equal parts, freely about the neck. Keep a large dish of hot water steaming beside the bed, with turpentine constantly floating and vaporizing upon it, using eucalyptus oil with it if desired. Keep lime water with benzoate of soda in solution, by means of an atomizer, steaming into the patient's face constantly, keeping the room of uniformly rather high temperature.

Very little confidence is placed in topical applications for the fibrous forms. Papoid $\mathfrak{D}$ i to $\mathfrak{z}$ i glycerine is brushed on every hour; a brush moistened in glycerine and rolled in sulphur is applied often, or sulphurous acid and glycerine—equal parts.

Three cases this season of laryngeal form, in imminent peril, and the surgeon in waiting, have recovered under the above

treatment with the aid of bountiful additional warm vapor in the room.

Of course perfect quiet in bed for days or weeks following the disappearance of the exudation is enjoined, with a judicious administration of bitter and ferrugineous tonics.

In the putrid form, with or without nasal complications—in patients not too young—a $\frac{1}{4000}$ to $\frac{1}{8000}$ solution of the bichloride of mercury is injected through the nose into the throat every six to twelve hours, to cleanse that part of the fauces not reached by the mouth.

By way of the mouth the fauces are mopped with a stronger solution of the bichloride at the same time. The tincture of iron and chlorate of potass. solution is used as liberally as the stomach will allow. The disinfecting turpentine vapor is kept constantly forming, often from a large basin resting in a notched piece of stove-pipe, over a kerosene lamp. The lime-water spray is used as freely as possible. The turpentine and oil is kept upon the neck, and with flaxseed poultices, if the glands are much involved.

The following is from Dr. J. W. Tope, of Oak Park, Ill.:

"*Dear Dr. Foster:* Yours of to day just at hand. In reply I will state briefly my line of treatment. If I see the case early—within the first twenty-four hours—I generally put the patient on large doses of sodium benz., giving it every hour or two for twenty-four, sometimes forty-eight hours. At the first appearance of deposit either on tonsils or elsewhere, I order a sat. solution of acid. borici to be used as a gargle, also to be thrown into each nostril (warm) with syringe every hour or two, according to the urgency of the case. I also apply to every diphtheritic patch in reach the bichloride solution, one to one hundred in alcohol every hour or two, taking care to squeeze out of the cotton (I use absorbent cotton) all superfluous solution so that the patient may not swallow it. I use the

boracic acid solution in all cases, because I think that what appears to be diphtheritic deposit only on fauces or tonsils, in many cases, does extend behind the soft palate. Generally after using the sodium benz. for a day or two, I put the patient on large doses of iron. Generally now use whisky liberally—as soon as the least indication of the larynx becoming involved I begin the use of mercury. Generally use the bichloride. When giving benz. sod. use from ten to thirty grains, according to age. In putrid cases, if patient is old enough to keep the injection from being swallowed, I use an injection through the nostrils of one to 4,000 of bichloride of mercury every eight hours. I do not use turpentine, but eucalypt. in vapor. When I use iron I have it given largely diluted, and with a wooden spoon. Use the one to 100 bichloride in alcohol only with swab."

DR. E. FLETCHER INGALS: I have been asked to speak upon the subject of intubation as compared with tracheotomy for the relief of diphtheritic laryngitis. I have recently found, in looking over the literature, that O'Dwyer's method has steadily gained ground with the profession in this country during the last year. Numerous papers have appeared, showing that many physicians are adopting this method, and I think we may say, without hesitation, that it has reached the point where it may be termed a recognized procedure. In Europe the status of intubation is now about the same that it was in this country two years ago, but the reason for this does not seem to be found either in the operation or in its results.

Many experiments have been made with a view to improving this operation, but so far as I can learn the majority of operators have concluded that O'Dwyer's methods and instruments have not been improved. There appeared, during the past year, a short but interesting article, by Dr. James Rich, of London, on "Naso-Pharyngeal Intubation," in which he recommends the

passing of a catheter through the nostril and nares into the larynx, and retaining it in that position so long as necessary for respiration. He recommends, at the same time, the passing of a small œsophageal tube through the other nostril into the stomach, for the purpose of feeding the patient. He had tried the method on four cases. It worked very satisfactorily for a few days, but unfortunately none of his cases recovered. This is not new, but is of interest as showing the efforts being made to improve the operation.

The operation of intubation, as we understand it, or O'Dwyer's method, seems to be especially adapted to those cases which can not be well cared for by nurses or physicians. This is exactly contrary to the suggestion of some foreign physicians, who urge as one of the greatest objections to this measure that the physician or nurse must be constantly in attendance, capable of introducing the tube. The experience of physicians in this country indicates that the laryngeal tube does not require as much attention as the tracheotomy tube, and that when expelled by cough there is nearly always ample time to summon the physician to reintroduce it.

Some one has specially recommended intubation in cases which occur with epidemics of measles, as in these cases tracheotomy is seldom or never successful. It is in these cases, particularly, that considerable ulceration of the larynx, or the trachea, has been set up by the tube and intubation has not proved very efficacious.

I think it is well established that intubation is to be preferred to tracheotomy in very young children. It has also been recommended for adults, whom it has been stated never recover when tracheotomized for diphtheria. I can not vouch for the correctness of this statement. One of the most prominent dangers of this operation is that of crowding membrane down before the tube, and thus preventing respiration. However, this is not a very frequent

accident. O'Dwyer says that out of 200 cases he has only had the accident occur twice, and in these two cases, on withdrawal of the tube, the membrane was immediately coughed up. This has been the experience of some others. But in some cases the membrane will not be coughed out. In such a case I believe we should do tracheotomy immediately.

In this I am not in accord with my friend Dr. Waxham, who recommends trying to remove the false membrane with forceps. The length of time the tube may remain in the larynx should be considered when comparing this operation with tracheotomy, as it has been thought by some that the laryngeal tube could not be left long enough to accomplish the results desired. There is no difficulty from this source, as it has been found that the tube may be left as long as necessary, without causing complications, excepting those cases complicating measles, in which limited ulceration is liable to occur. The tube will generally remain from three to five or six days, but it is often coughed out the third or fourth day, and in many instances it is not necessary to return it: but in others it must be reintroduced and worn until the fifth or sixth day before it can be finally removed, and a few will have to wear it even longer.

It has been urged against intubation that particles of food find their way into the trachea and then into the lungs, causing pneumonia by aspiration, or "*Schluck-pneumonie*." I think it a common belief with the profession that this is the usual cause of pneumonia after intubation. I have held this view myself, and still hold it with reference to some cases, but it is a singular thing that in 116 autopsies recorded by Dr. Northrup, of New York, not a particle of food could be found in any portion of the respiratory tract. This would seem to prove the danger of pneumonia by aspiration has been much overestimated. The risk of tubes slipping into the trachea has been urged against intuba-

tion, and I think it is a danger that has been much underestimated by the profession. Several instances in which this accident has happened have been published; I know of some cases that have not been reported, and have no doubt that others have occurred. This danger can only be avoided by using a tube of proper size. Those who are in favor of tubes with small heads do not consider this danger of much importance, but I would urge upon you the necessity of using tubes of proper size with the large head recommended by O'Dwyer. It was urged early in the history of intubation that the tubes were liable to become stopped up, and might cause suffocation before they could be removed. This accident is rare but it may occur slowly by drying of the secretions or suddenly by loosened membrane. One case is reported in which the child vomited and portions of the contents of the stomach were drawn into the tube so that the patient would have suffocated if the physician had not been present. If the tube becomes occluded slowly the gradually increasing dyspnoea will attract the nurse's attention so that the physician may be called to remove it, but if it becomes stopped quickly the only chance for the patient is in coughing it out, therefore a tube which does not fit tightly should be used. Until recently we all believed that a child three or four years of age could not breathe through a tube less than one-fourth of an inch in diameter, but we have found that this impression was erroneous, and that they may get sufficient air through an opening not more than one-third of the size. It is claimed by O'Dwyer that the small openings are better than the large ones, because patients wearing such tubes can cough more forcibly, and expectorate more readily.

A tube which will slip into the larynx without much force should be used in preference to one which has to be crowded into the glottis. It is especially important that the physician should remember that

the tube merely allows the entrance of air, and has nothing whatever to do in curing the patient. I believe that in many instances the physician gives up his work as soon as the operation has been done, and does not continue proper medication. During the past year the discovery of the new method of feeding, which was presented to this society by Dr. Casselberry (and which I think he says was suggested by Dr. Cary), has done very much to remove from intubation one of its most prominent objections. Before this method of administering fluid was discovered it was necessary either to feed the child solids or soft solids, or to nourish it by enemas, and to withhold fluids. By this method we find that the child placed upon its back, with the head low, can swallow fluids readily without the danger of its running into the trachea and causing cough and possibly pneumonia. I believe that with the adoption of this method of feeding, the operation will soon become much more general than it now is, and as it becomes more general I think we will find that the results are better than they have been.

In the spring of 1887, I gathered together the reports of 514 cases of intubation, in which the percentage of recoveries was 26.07 per cent. Dr. Waxham gathered together for the International Medical Congress, in the fall of the same year, the records of 1,072 cases, with a percentage of recoveries of 26.77, showing in that short space of time a considerable improvement in the percentage of recoveries. Dr. O'Dwyer reported a series of 100 cases, with a percentage of 27 recoveries. And the latest written report from Dr. Waxham is 169 cases with 29 percentage of recoveries.

The percentage from tracheotomy varies according to different reports. Where large numbers have been collected it is from 26.25 to 28, thus showing that the percentage of recoveries from the two operations is essentially the same. There are in-

stances in which the percentage of recoveries from tracheotomy has been much less, as there are those in which the percentage of recoveries from intubation has been equally unfavorable, but there are others in which results have been much better. Some operators have had nearly 50 per cent. of their cases recover after tracheotomy; but the most comprehensive statistics place the recoveries from this operation fairly, at from 26.25 to 28 per cent., and the largest collection of cases of intubation place its successes at 26.77 per cent. I do not believe intubation adapted for all cases, but I do believe it should be used in preference to tracheotomy in nearly every case in the beginning. If it does not relieve the dyspnoea, tracheotomy should be resorted to. Of course intubation should not be used where the obstruction to respiration is in the fauces instead of the larynx, as occasionally happens.

DR. F. E. WAXHAM: In looking over the records of my cases to-day I find I have performed intubation 180 times, with 56 recoveries, or something over 31 per cent. My first 150 cases were reported before the American Medical Association, and have been fully published. Since then, within the last six months, I have had 30 cases, with 15 recoveries, or 50 per cent., and I believe that the skill and the judgment that comes with increased experience will enable us to continue to save at least 50 per cent. of our cases. In looking over the records I find that many cases have been saved only by the most judicious and watchful care, and, again, I find that a few cases have been lost where, if better judgment had been exercised, I am sure the patients might have recovered. For example, not long since I performed the operation on a little boy 12 years old. It was so perfectly evident that there was membrane below the tube that a thread was left attached to it in order that the parents might remove the tube at a moment's notice, in case there was detachment below the tube. All went

well for two days, when the child accidentally severed the string by chewing upon it, and, about two hours later, detachment of membrane occurred, and the child died in a few moments. In this case, if the tube had been removed at the moment or soon after the thread was severed, undoubtedly the child would have recovered. The membrane would have been expelled, or, if not, a smaller tube should have been introduced, and this would have been expelled when the membrane became detached below it, or, as Dr. Ingals suggests, tracheotomy should have been performed. Dr. Jacobi, of New York, than whom we have no better authority, after having performed tracheotomy 500 times, now recommends intubation. Such is the conclusion of a man who, perhaps, has performed tracheotomy more times than any one else in America. In the last issue of the *Journal of Pediatrics*, Dr. Huber, of New York, reports 94 cases, with 37 recoveries, or 44 per cent.; so it seems that the record of intubation is improving.

In regard to feeding the patients, a great deal of judgment and discretion should be used in every case. We must find the idiosyncracies of each patient. Many patients will not swallow in the inclined position; we cannot induce them, we cannot compel them to swallow while standing on their heads; and when this is true we must remove the tube and employ one with an artificial epiglottis, or else continue to use semi solid food. It should be said, however, that perhaps the majority of patients swallow very well in the inclined position. Again, there is one danger that should be referred to in this connection; that is the danger of expulsion of the tube while in this position. Not long ago I had a little patient two years old, who was doing remarkably well. On the second day, while he was being fed in the inclined position, there was a sudden coughing spell, and soon after the people noticed that the child was breathing hard. They postponed sending for me for some little

time, and when they did finally send, it was too late; the child was dead before I arrived. Upon examining the child, in the endeavor to remove the tube, I found it was not in the larynx, and upon searching it was found in the post nasal space. The tube had slipped down while the child was in the inclined position. This accident will not frequently occur, but it is a danger we must bear in mind. I think my success has been dependent, in no small degree, upon the use of small tubes. I invariably use a smaller tube than is appropriate for the age of the child. One of the greatest dangers is from the detachment of membrane below the tube, and I believe the fault with many who have no success with intubation is that they use too large a tube, one that fits too tightly. When detachment of membrane occurs the tube is not expelled, and suffocation quickly follows. Frequently I am called to patients to replace a tube that has been ejected, and I would much prefer to replace the tube several times than to take the risk of sudden suffocation.

DR. W. E. CASSELBERRY: I feel that in this connection still a word is necessary, although it has already been mentioned by Dr. Ingals, in reference to the crowding down of the membrane in the performance of intubation. This, in my experience, has been a more frequent accident than we would be led to suppose from statistics already given. Thrice it has happened to me; twice I have been able to perform immediate tracheotomy supervening the intubation, to relieve the condition, and once saw death rapidly ensue, more rapidly than it otherwise would have done, when tracheotomy was refused by the friends. In a certain orphan asylum in this city, up to three years ago, tracheotomies had been performed, and death resulted in every instance. The management of that asylum thereupon resolved that no more operating in these cases would be permitted, and, as they expressed it, the patients would be

allowed to die in peace. With the advent of intubation and the recent recurrence of cases of diphtheria in the institution, I was requested to perform this operation. The child was eight years of age; it was in all respects, to begin with, what would be regarded as a favorable case for tracheotomy. It was in the last stages of dyspnoea from laryngeal diphtheria. The introduction of the tube, under these circumstances, crowded the membrane down, and death was very rapidly imminent, so that hasty action was necessarily taken. The authorities of the institution had to be consulted before tracheotomy could be done; they finally agreed, after consultation with the mother of the child, that tracheotomy would be permitted. By that time the child had ceased respiration completely—was dead, although not more than ten minutes had elapsed from the performance of intubation. The child was hastily placed upon the table, and a tracheotomy tube inserted. The child was resuscitated, and finally recovered. I mention this case simply to urge the necessity, on the part of the physician when performing intubation, to have it thoroughly understood that tracheotomy may be immediately necessary to supplement the operation of intubation, and to have the instruments and table all ready to perform instantaneous tracheotomy in case the membrane is crowded down ahead of the tube.

DR. FRANK BILLINGS: I would like to ask a question of Dr. Ingals or Dr. Casselberry. When Dr. Casselberry made known his method of feeding, he only described one form of inclining the patient—the head backward on an inclined plane, and like Dr. Waxham, I found some difficulty in feeding two recent patients in that way; but by turning them over on the abdomen with the head on an inclined plane, they took the food just as well. I would like to know if that method has been tried.

DR. W. E. CASSELBERRY: I would simply mention that I have tried both methods.

The one originally described was on the back. Following my publication and description of this method of feeding in the inclined plane position in cases of intubation. I received a letter from Dr. John Bartlett, who suggested feeding upon the abdomen in the inclined plane position. I had already, at that time, tried this method in one of the patients I was feeding on the back, but it did not seem to me to work as well as the dorsal position. Since then I have tried it and it seems to work equally well with the dorsal position. I think it is a matter of suitability to the individual case, whether the child should be inclined on the abdomen or on the back.

DR. W. F. COLEMAN: I would like to ask a question on the pathology of post-diphtheritic paralysis about the eye, which has interested and puzzled me much. The paralysis of the external ocular muscles is said not to exist after diphtheria, but in my own observation it does exist. It is rare to have paralysis of accommodation without dilatation of the pupil, except in diphtheria. On the other hand, paralysis of the sphincter of the iris is commonly accompanied by paralysis of accommodation. Why we should have paralysis of the accommodation without paralysis of the sphincter is to me a query, and one I am not able to give an opinion upon. It would seem a very singular thing that diphtheria should select the ciliary nerves, which come from a very small ganglion to the ciliary muscle, and not attack the branches to the iris. As to the time: It appears that paralysis occurs usually within three to six weeks after the disease. And it occurs in very mild cases of diphtheria. As to the age, my observation is that a good many cases occur in young persons.

DR. D. R. BROWER: I do not know that I have anything to say in reply to the inquiry of Dr. Coleman, except to reiterate the statement that the pathology of post-diphtheritic paralysis is yet uncertain. We cannot explain these cases by any of the

ordinary pathological conditions that give rise to paralysis. In the case the Doctor has mentioned, of accommodation paralysis, there must be something more than the neuritis that is considered the basis of most cases. It must be there is something developed by these micro-organisms, which plays havoc with the nervous system.

DR. E. J. DOERING: I would like to ask Dr. Ingals to compare the statistics of tracheotomy and intubation. Is it really fair to compare the two? Can the Doctor give us the statistics of twenty suffering from diphtheria, in which tracheotomy has been performed, and twenty of intubation? Such statistics would be more valuable for comparison than merely so many of intubation and so many of tracheotomy.

DR. JOHN W. NILES: I understand Dr. Ingals to say that tracheotomy in adults, after diphtheria, was uniformly fatal. I simply want to report that Dr. C. T. Parkes performed a tracheotomy on a friend of mine who recovered.

DR. E. F. INGALS: With reference to Dr. Doering's question, I may say there is no fair comparison of intubation and tracheotomy, and there is no way to make a fair comparison until statistics from the new operation are much larger. We cannot know about the relation of cases in either instance, but we may make as fair comparison by taking the whole number of cases as in any other way. Some surgeons, who have had great success in tracheotomy, have advised this operation as soon as they noticed difficulty in breathing: some who have had success in intubation have done the same. Either operation performed early will be much more successful than if performed late. Either operation performed early will get the credit of saving patients who would have lived without it. There is no question in my mind but that the operation should be done early, and if tracheotomy is done as early as intubation, I presume the results will be much the same.

DR. W. G. DYAS: When I first came to this city in 1859, diphtheria was very prevalent; twenty-one children died in immediate succession. These children were all under the mercurial treatment, and then for the first time, did I use the iron treatment. I use, very largely the perchloride of iron. I gave large doses of iron internally, and large doses of wine as stimulants. There is no disease in which stimulants are so well borne as in diphtheria. The result was a good deal of success after a great deal of mortality from the disease. Some men were opposed to the use of tonic treatment, and would insist on going on with calomel in large doses. I think it was in 1859 or 1860 that I was called to Lyons, in consultation with Dr. Fox. On the way there I saw a child lying dead. It had recovered to a certain extent from diphtheria, was dressed and walking about, and every one supposed it had recovered from the disease; when suddenly it was seized with paralysis of the heart. In that case paralysis set in sooner than it generally does in this disease. I saw Dr. Fox, and to his credit be it said, he had no thought of anything but saving his patients. I proposed the iron treatment and stimulant and he said, "Do what you please, I am satisfied to see my patients recover." They were two German children, and are now young ladies, living in this city not far from my house. In their cases we used the perchloride of iron with equal parts of glycerine, applied internally to the fauces, and at the same time used muriate tincture of iron in ten minim drops every three hours. Wine was given in large quantities, and I was surprised to see children so young able to bear such large quantities of wine. I have treated as much diphtheria as most men in this city, and have had a great deal of success. I have scarcely changed my practice. One case I attended with a friend of mine was unsuccessful. In that case we did all that could be done from the beginning; injec-

tions of lime-water were made along the nostrils; lime-juice gargles were used, and large quantities of stimulants were given, but we had a very unruly child to deal with and it died; not from the treatment nor the disease, but from obstinacy. He died from paralysis of the heart. That was the only case that has been unsuccessful with me that I attended from the commencement. We now use carbolic acid vapor in the room and lime-water injections along the nostrils, and I have very few cases that terminate in affections of the larynx and trachea. I have been most fortunate in this respect. I cannot say one word about intubation or tracheotomy, for my cases have not gone so far. I can help them by decisive action in the beginning, and thus a majority of the cases will recover.

DR. EPHRAIM INGALS: I have found nothing better in the treatment of diphtheria than to adhere to the old simple methods, and in therapeutics I still place my chief reliance on the tincture of chloride of iron, quinine, and chlorate of potassium. If the sick will hold the compressed tablets of the chlorate in the mouth and allow them to dissolve slowly—as they will—the remedy will be more efficacious than when prescribed in solution. Twenty to thirty grains should be administered daily in this way. Beyond what influence the agent may exert through the blood, this method gives it a long, continued application to the throat.

When patients are old enough to do it, they are benefited by frequent cleansing of the throat with gargles of warm water. I would isolate the sick when practicable. The importance of abundant and pure air, an even, and not too low temperature, good nutrition and caution during convalescence, is inculcated by all alike.

DR. G. F. LYDSTON: There is one point in connection with catarrhal diphtheria that I think was not brought out as strongly as it should have been; that is, that

some of the apparently mild cases are apt to be neglected, their importance underrated, and the patient allowed to go about too soon, as a consequence of which fatal, cardiac paralysis or other disagreeable consequences may ensue. A case illustrating this came under my observation in a prominent young business man in this city, who had a very slight attack of catarrhal diphtheria; in fact it was pronounced by one gentleman who saw him to be ordinary follicular pharyngitis. He was confined to the house about three days and then dismissed under the supposition that he was entirely well. He had previously been a perfectly healthy man, and, as was his custom prior to his illness, he took a cold bath before going down to business, and was found in the bath-room half an hour later dead, probably from paralysis of the heart. I think that case illustrates the care that should be taken in differentiating catarrhal diphtheria from simple sore throat. All cases that can not be accurately diagnosed, as well as cases that can be traced directly to infection, should be carefully watched.

Dr. Brower, in mentioning the various nervous sequelæ of diphtheria, failed to mention a peculiar symptom I have seen in two cases, viz.: paralysis of the bowels, although this may have been embraced in his remarks upon the effects of diphtheria on the spinal cord. I have seen two cases in young children. In one case in the third week, in the other the sixth week, I was called suddenly to see the little patients. I found the abdomen in each instance tremendously swollen. I have never seen cases of tympanites as marked as were these. The condition was associated with most obstinate constipation, and in each case with paraplegia. I ventured the opinion that the abdominal distention would disappear, as the other nervous symptoms improved, and my prediction proved correct—the condition disappearing in four or five weeks.

DR. E. F. INGALS: I want to say one

word with reference to instructing the community how to prevent diphtheria. I believe diphtheria is contagious, although there are many cases in which it does not seem to be so. I firmly believe that a great majority, perhaps more than half the cases of diphtheria, are caused by negligence of parents or friends about keeping the house properly warmed. A majority of the cases of diphtheria occur in mild weather, when it is a little too cold to be without fire, and a little too warm with it. As a result, many houses will be found at about 65°, and we will find the little ones running about, in and out of doors, dressed in their summer clothing. They necessarily take cold; they contract sore throat, and, with or without the bacillus as a cause, diphtheria is developed, whereas, if they were properly clothed, and the house was kept properly warmed, they would not have the disease.

I think the local treatment is not always as important as is thought by some physicians. It is well enough if it can be done without getting into a quarrel with the child. I recollect very well what Dr. Dyas told me, a few years ago, of his experience with the local treatment of diphtheria. The case was something like this: The child had diphtheria; the doctor believed in local treatment, and the father said we will apply it. The child died in the struggle, and I understood the Doctor that he has since given up local treatment unless the child accepts it willingly.

I believe that the tincture of the chloride of iron is one of our best internal remedies, and it may be given so frequently that a good local application is made every half hour, or less frequently, without resort to swabs, brushes, or sprays.

In regard to fatal cases, in which both intubation and tracheotomy have been performed, I am asked whether the result is charged to tracheotomy or intubation? I have no doubt they are charged to intubation by the tracheotomists, and to tracheotomy by the intubationists. Prof. Tirsch,

of Liepzig, has performed intubation thirty-two times with only three recoveries. In fourteen of these cases he subsequently did tracheotomy, but the children died, and therefore, we are told, he abandoned intubation (because the children died in spite of tracheotomy). Would it not have been just as reasonable to abandon tracheotomy?

DR. A. H. FOSTER: I invariably use chlorate of potash with the tincture of iron. In cases of the croupous form only, am I accustomed to give mercury; in the other forms of diphtheria I try to saturate the patient with tincture of iron and chlorate of potash solution.

THE GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Stated Meeting held January 8, 1889.

THE PRESIDENT, DR. THOS. OPIE, IN THE CHAIR.

DR. WM. E. MOSELEY reported a case of

SUPPURATING PAR-OVARIAN CYST.

Had this been a case of simple par-ovarian cyst, I should not have considered it worthy of a special report, but in general particulars the case is exceptional. In the first place it occurred in a mulatto woman, such growths being extremely rare in the colored race. Secondly, it was a *suppurating* par-ovarian cyst, and thirdly it had ulcerated through into the left Fallopian tube and so discharged some of its contents through the uterus. Mrs. T., a mulatto woman, presented herself at my private dispensary on the third of last October (1888). She was about thirty-five years of age, had been married seventeen years, but had never been pregnant. Up to last July her menstrual history had been perfectly normal. Three or four years before, she first noticed a slight tumefaction of her abdomen, which increased and diminished by turn, but gave her no particular discomfort, and apparently had no marked effect upon her general health.

In July, 1888, her menstrual flow appeared as usual, but did not again appear up to the time of her consulting me. Co-incident with the cessation of her menstrual flow the tumor in her abdomen began increasing in size, and her general strength failed.

Examination showed the following condition: The abdomen contained a tense, perfectly smooth, elastic tumor, reaching from the pubis to about half way between the umbilicus and ensiform cartilage. It was uniformly flat on percussion except in either flank. Fluctuation was very marked in all directions, and the abdominal wall seemed to be freely movable over the surface of the growth. Changes of position made no change in the above signs. Abdominal measurements at this time were as follows: Circumference at umbilicus $30\frac{3}{4}$ inches, pubis to umbilicus $6\frac{1}{2}$ inches and ensiform cartilage to umbilicus $8\frac{1}{2}$ inches. Digital examination showed apparently a small uterus, which was flattened up against the pubis, with no other sign of uterine disease. Fluctuation could not be made out in the vagina. The woman's general condition was bad. She was very anæmic and weak, appetite poor and bowels constipated. I determined to watch her for a time, to build her up as much as possible, and to act in accordance with future developments, feeling certain that she could not well be in a worse condition for operation, and could probably be gotten into a better one.

She had suffered much from malarial troubles, and was put upon arsenic, iron and quinine, with good food and rest in bed. Her abdominal measurements during the following two months changed but very slightly. Her temperature varied between 100° and 102° in the axilla, and her pulse ranged from 90 to 100 beats per minute. But her general condition did improve very markedly.

On November 13th, I measured the depth of her uterine canal, and found it

2 $\frac{1}{4}$ inches. At no time was there any cough or lung symptom. Taking all the facts into consideration, I felt that the most probable diagnosis was a tense, rather thick-walled monolocular cyst of the left ovary, and Dr. T. A. Ashby, who kindly saw her in consultation with me soon after this, reached the same result. The persistent high temperature, admitting that the diagnosis was correct, of course pointed in the direction of suppuration.

On December 5th, after the abdominal walls had been scrubbed with 1-2000 solution of bichloride of mercury, with the patient under ether, administered by Dr. Keyser and assisted by Drs. Ashby, Platt and Robert Johnston, I made the usual incision, a trifle less than two inches in length. No abdominal adhesions were found. Upon puncturing the cyst, a free flow of foul-smelling pus occurred and a little over a gallon was drawn off. Although some flowed down over the abdominal wound, this was kept so tightly closed by tension upon the sack, that I am satisfied none entered the abdominal cavity. There was a considerable adhesion to the omentum, which was ligated and cut. Great difficulty was found in separating the tumor from the uterine adhesions, which were unusually firm and extended well over to the right broad ligament and tube. All adhesions were tied with carbolyzed catgut and all bleeding vessels controlled in the same manner. The pedicle proved to be the whole length of the left broad ligament. This being so large and containing some large size vessels, was tied with carbolyzed chinese silk, the stump thoroughly seared with a Paquelin knife at a little more than a black heat and dropped back into the abdominal cavity. The abdomen was thoroughly washed out with warm boiled water, cautiously dried and the wound closed with seven carbolyzed silk sutures. The external dressing consisted of a piece of muslin upon which had been spread a considerable layer of antiseptic

ointment (consisting of one grain of mercurial bichloride rubbed up in an ounce of benz. oxide of zinc ointment), upon this a piece of oiled silk, to prevent the gauze from coming in contact with the adhesive plaster, enough absorbent cotton, which had been freely baked, to fill up the depression between the prominent iliac bones and a cotton binder. Then the patient was put into bed, between woolen blankets, and artificial heat applied.

The time consumed was about one hour and a half, most of it having been occupied in separating the tumor from its adhesion. The patient rallied well from the ether, vomited but once and showed no sign of extreme shock.

Four hours after the operation, my patient had a temperature of 98.2° in the axilla, and a full, smooth pulse of 83. The only anodyne given was one subcutaneous injection of a quarter of a grain of morphia. She took a cup of black coffee in teaspoonful doses, and as her stomach was undisturbed by it, was ordered milk in teaspoonful doses every half hour; this was gradually increased, and at the end of forty-eight hours, she was given beef tea (home-made beef tea and a teaspoonful of beef peptoids to each cup full). The highest temperature reached was 101.5°, on the evening of the second day. The pulse was abnormally slow and was accompanied by a rather scanty secretion of urine. Infusion of digitalis failed to cause improvement in this respect, but the flow promptly increased upon the free use of Lythia water and the pulse became normal. The bowels moved naturally on the third day, causing no pain. On the fourth day menstruation appeared, the first time for five months.

Three of the abdominal sutures were removed on the eighth day when union was perfect. The remaining sutures were removed on the fourteenth day.

On the sixteenth day the temperature suddenly went up to 102.1° in axilla, the rise evidently of malarial origin. Nine

grains of quinine sulphate, in divided doses inside of six hours, reduced the temperature to normal, where it remained.

The examination of the cyst was kindly made by Prof. Wm. H. Welch, of the Johns Hopkins University, and his report was as follows:

Examination of tumor removed by Dr. Moseley.—The specimen is a unilocular cyst, has a glistening, grayish-white appearance, and presents numerous shreds of tissue, consisting of adherent bits of omentum and fibrous tissue. In the pedicle is included the abdominal extremity of the Fallopian tube, which measures thirteen cm. in length. The Fallopian tube is intimately incorporated with the wall of the cyst, its fimbriated portion being obliterated. The wall of the tube is considerably thickened, its lumen dilated to about a half cm. near the pedicle and becoming larger toward its communication with the interior of the cyst. A probe inserted into the tube passes readily into the interior of the cyst, through an opening about one cm. in diameter, situated on the inner wall of the cyst.

Upon opening the cyst, one-half a liter of reddish gray, somewhat viscid fluid, mixed with dark red and greyish blood clots, escapes.

The diameter of the cyst is 23 cm. The average thickness of its wall 3 m. This wall is composed of three layers, an inner of a yellowish grey, sloughy appearance; a middle of a gray, dense, fibrous aspect; and an outer corresponding to thickened peritoneum, which can be stripped off.

The inner surface of the cyst is irregular, yellowish, necrotic in appearance. There is an oval, depressed, ulcerated area, eight inches in length and five in breadth around the opening of the Fallopian tube into the cyst.

Upon microscopical examination no epithelium is found lining the cyst, but in its place a mass of pus cells, Gluge's corpuscles and fatty granules.

The fluid contained in the cyst is composed of red blood-corpuscles, pus cells, most of which contain fatty molecules, and many are converted into Gluge's cells, free, fatty granules, and granular detritus without definite character.

Diagnosis.—Par-ovarian cyst, which has suppurated and has ulcerated into Fallopian tube. The unilocular character of the cyst and its intra-ligamentous situation indicate that it is of par-ovarian origin. The epithelial lining has been destroyed by the suppurative process.

The communication with the Fallopian tube is undoubtedly secondary, but it is not possible to say positively whether the ulceration is from the tube into the cyst or in the reverse direction. The extent of the ulcerating cyst around the opening into the tube would suggest that the direction of the ulceration has been from the cyst into the tube.

The free communication between the interior of the cyst and the cavity of the Fallopian tube, which is patent throughout the 13 cm. of its length removed, would make it possible for the cyst's contents to escape through the uterus and vagina. It would be interesting to learn from the clinical history whether such a discharge of the contents of the cyst ever took place.

After receiving Dr. Welch's report, I carefully questioned the patient regarding any free, purulent discharge from the vagina, and satisfied myself that such had occurred shortly prior to the operation, although nothing had been said to me regarding it at the time of its occurrence, nor was such a discharge present when I made a vaginal examination.

A word regarding the antiseptic ointment that I used in dressing the abdominal wound. I have used it for past two or three years and have put it to several severe tests and it has always answered its purpose exceedingly well.

DR. WM. PAWSON CHUNN said that in the history just presented by Dr. Moseley he

was struck by the fact that amenorrhœa was present in conjunction with swelling of the abdomen. This might give rise to suspicion of pregnancy and lead to maltreatment unless the use of the sound was refrained from. If the tumor was considered to be a par-ovarian cyst, tapping might have been undertaken as has been advised by Spencer Wells, but in this case would have been probably useless, or dangerous, on account of the putrid contents of the sac. Where there is pus in a sac, tapping may let out the contents into the abdominal cavity, or may produce hemorrhage in the cyst, which danger may be avoided by an abdominal incision. The proper plan here was to extirpate the sac. He had recently seen a case in consultation which he diagnosed as a par-ovarian cyst, but which did not turn out so fortunately as Dr. Moseley's case. The patient showed on examination a spherical cyst, with flaccid wall, movable and fluctuating equally in all directions, evidently unilocular in character. Operation was delayed until the attending physician could return to town, but in the meantime the woman fell down stairs and the tumor burst. She passed great quantities of straw-colored urine, and the tumor partially disappeared, but she went on from bad to worse, and finally died, having refused operation.

DR. MOSELEY, in closing, said that in the diagnosis pregnancy had been carefully eliminated. The introduction of the probe was postponed until the case had been under careful observation for nearly two months. When it was used it settled the question beyond any possible doubt. The necessity for antisepsis varies inversely as the cleanliness of the patient's surroundings. When we can secure *pure* air, absolute cleanliness is all that is required, but if the surroundings are bad, antisepsis is an absolute necessity. The treatment of such a case as the one reported cannot be based upon the requirements in a case of simple par-ovarian cyst. The pedicle was

broad and distinct, and moreover contained large vessels, making ligation necessary. Patients, he believed, should, whenever possible, be fed by the stomach. By waiting until the stomach seems settled and then feeling one's way carefully with small doses of milk at regular intervals, no rectal feeding will be found necessary in the majority of cases.

DR. C. O'DONOVAN, JR., reported a case of
RAPID PULSE IN A HYSTERICAL WOMAN.

On November 26th, 1887, I was called hurriedly to see Mrs. S——, white, a widow for about a year, the mother of two children, both dead now. I had known her for the past three years, and had often attended her for various slight ailments more or less complicated by nervousness, that would become sometimes slightly hysterical. About six months ago she complained very much of backache and menorrhagia, which I found by examination, was caused by a retroversion and for which I had introduced a Smith-Hodge pessary, affording her considerable relief; this she was still wearing. She had never been quite herself since the death of her husband, who had consumption, and who required a great deal of nursing, which was freely given by his wife, until his death left her but a shadow of herself, thin, pale, anæmic, constantly harassed by attacks of nervousness, varying in intensity, with each of which she would experience shortness of breath and palpitation of the heart. Her husband had kept a little tobacco shop, and just managed to make enough to keep them going, but when he died the affairs of the shop got into disorder, and financial difficulties were added to her other sources of uneasiness, until she became so despondent and nervous that she could scarcely hold a needle to sew. This chronic state would frequently culminate in paroxysms of such intensity that she would be driven from the house in spite of herself, and would feel obliged to walk and walk, for an hour or more, until she would experience some re-

lief, when she would return home in a state of exhaustion from which she would not recover for a day or more. During several of these attacks she has walked into my office, with quickened, shallow respiration, and pulse-rate about 120, an anxious, frightened countenance; and I had usually succeeded in relieving her by giving a dose of asafœtida or valerian, or some such remedy. She had always in her house, by my direction, a number of pills containing a grain each of asafœtida and sulphate of iron, which she had been in the habit of taking whenever one of those attacks would occur, and for a week or ten days after its subsidence. These seemed to afford her considerable temporary benefit, but her nervous system had never been able to regain its normal condition, in spite of iron, quinine, strychnia and the various vegetable tonics, which she took at different times. While she continued under treatment and observation, she would get on quite well; she would develop some appetite and could control herself enough to give hope of permanent cure, but as soon as she was left to herself, all of her lately acquired stamina would disappear and she would fall back into her former condition, her hands would become tremulous, her eyes would move restlessly from object to object, her feet would be pushed forward and then drawn back, or would be crossed one over the other for half a minute and then reversed; if sitting in a chair, after a few minutes she would feel obliged to change to another, so that she seemed almost like a child with chorea, except that the movements were deliberate, and lacked that convulsive jerk so characteristic of that disease. In addition to this she would lose her appetite, becoming dyspeptic and constipated. During all this while she could sleep well, passing her only comfortable hours in bed, but spending her days in misery. Her family history, and her own personal history were both good, her mother being alive and

hearty, at about sixty years, and two of her sisters whom I met subsequently were healthy women; there was no suspicion of syphilitic taint. Knowing all these facts I was prepared, when summoned on the night in question, to find her suffering from a recurrence of her nervousness, but for nothing like what I found. She lay in bed, quiet enough, apparently experiencing no pain, which supposition she subsequently confirmed, the only evidence of anything wrong being her hurried, shallow respiration and the intensely anxious expression of her countenance. I had entered the room carelessly, and began to ask her about herself before feeling her pulse, as the evening was cold and I did not care to grasp her wrist with my hand before it had become less numbed. She told me that she had arisen perfectly well, but that something had happened in the morning to precipitate one of her nervous attacks, which she had endeavored to walk off, but had failed, returning worse than when she had started out, suffering principally from shortness of breath and a sense of suffocation: this had become so bad by midday that she was obliged to go to bed, where she had since remained, but without relief.

At this stage of her story I felt her pulse, and was shocked at its extreme feebleness and rapidity. In spite of its fluttering character the impulse wave of each contraction was distinct, and no diastolic interference, so that I could readily count the beats, which numbered *one hundred and ninety-two* in the minute. This I verified several times, at intervals of five minutes or so, and found these numbers remarkably constant. You may judge my anxiety and fear, so natural under the circumstances. The contractions of the heart muscle seemed fairly strong, and the action of the valves was all right, but the tension in the arteries was almost nothing, so that the blood streamed away from the heart without offering that resistance so necessary to the proper action of any system of valves, and

the woman seemed to be bordering upon syncope that might, at any moment, become fatal from formation of a clot. She lay with her head upon a very soft pillow, so that it was not at all elevated, and had been taking, during the few hours just passed, a weak mixture of brandy and water. While this may have prevented a worse condition of things, it had not much improved them, and it required a very few seconds for me to write for a solution, containing in each half teaspoonful a grain of carbonate of ammonia and five drops of tincture of digitalis, for which I sent at once and anxiously awaited. In my endeavor not to betray my intense anxiety, I overdid myself, and my patient, who had been lying easy and totally unconscious of anything very unusual in her condition, seeing me evidently worried, and, worse than all, trying to dissemble, began to be frightened and uneasy herself, so, more to quiet her than for any other purpose, and to gain time, I placed my thermometer under her tongue very carefully, giving her minute directions about keeping her mouth closed, and ordering her to be sure to retain it beneath her tongue until I removed it. This simple maneuver had the desired effect, and kept her quiet until the medicine arrived. There was not the slightest elevation of temperature. I administered at once ten drops of tincture of digitalis and two grains of carbonate of ammonia, and experienced considerable relief when I found that her pulse began to improve in tone and gradually decreased in frequency; her respirations, at the same time, grew deeper and more satisfactory. After about half an hour I administered half a teaspoonful of the same mixture, affording her much relief. Finding that she continued to improve I left her then, but ordered that the mixture be continued each hour in half teaspoonful doses until she fell asleep.

November 27th. When called the next morning I found her in bed still, but feeling very much more comfortable, although

she was worn out and prostrated after the experience of yesterday. Her pulse had fallen to 132, but was much fuller, and felt satisfactory. After I left her she took five doses of the medicine, all before 2 A.M., about which time she fell asleep, and after waking she felt that she did not require any more. She told me that she had once before had a similar attack, and had been attended by a physician hastily summoned in the neighborhood, who seemed, she said, even more scared than I had shown myself, to which I could only reply, that I could well believe it.

November 28th. When I called the next day, she met me in the store, feeling perfectly well. Her pulse was then 72, full, strong and regular.

DR. F. E. CHATARD, JR., related some particulars of a case of rapid heart in a young hysterical woman, in which the rapidity of pulsation varied from 150 to 170 during a period of four weeks. The patient at the same time was suffering from hysterical aphonia and other marked phenomena of similar origin. There was no rise of temperature and no pulmonary or cardiac lesion to account for the condition. As she returned to a more normal and healthy state of her nervous system, it was found that there was a reduplication of each heartbeat, and each alternate beat became gradually weaker and weaker, and was ultimately eliminated, leaving her normal pulse about 75.

DR. WM. E. MOSELEY related the case of a lad in the Boston House of Correction, whose pulse became very rapid, about 160, soon after being placed in a *dark* cell. The rapidity of the pulse was apparently due entirely to the prisoner's nervous condition, and subsided promptly upon his being taken out of solitary confinement. Somewhat akin to this class of cases, was that of a lady, who two or three days after an abortion, had a *nervous chill*, during which the temperature reached over 107° F., and the pulse was correspondingly rapid. In

the course of an hour pulse and temperature were practically normal.

DR. GEO. W. MILTENBERGER said: One of the most remarkable and interesting cases bearing upon unusual rapidity of pulse which I have ever seen, I met with a few months since. On September 21st last I was called in consultation by my friend Dr. T., to see Mr. H., with him and another consultant, one of our most distinguished physicians, who had already seen him. Interested in the history of his case I spent at my first visit an hour in the examination. I found a man of about 56 years of age, large, robust, athletic, who, I was told, had been noted for his physical powers throughout his life. Many years of his life had been passed in mechanical pursuits, requiring great muscular strength, as well as endurance. There was no history of constitutional taint, hereditary or acquired. He had been addicted to no vices, had not used liquor to any extent but had used tobacco, both smoking and chewing very freely. There was no albuminuria, there was no organic disease of the heart and lungs, there was no impairment of sensation or motion, and no mental affection whatever. For twenty years he had attacks of cardiac palpitation and irregularity at intervals, which were pretty promptly relieved by cardiac stimulants and nervines, and did not interfere with his usual avocations. Some two or three months before my visit, these attacks became aggravated and so repeated as to invalid him, and force him to withdraw from business. And now for the first time he had with them excessive and distressing dyspnoea. At a still later period, some weeks before I saw him, the stomach became affected and he had with his paroxysms, nausea and occasional vomiting.

The attacks coming on every day or two, would now continue for several hours, and resisted every means for his relief, or the relief would be only partial and temporary.

All the nervines, sedatives, antispasmodics and heart tonics were tried but in vain. Nitro-glycerine was tried but without avail. nitrite of amyl at first seemed to afford a little relief but was afterwards useless. First heart, second lungs, third stomach, followed in sequence in this history. There being no organic disease of heart, lungs, stomach, liver or kidney, and the peripheral distributions of the pneumogastric all participating in regular sequence, the question of necessity arose was there any organic lesion central at its point of origin or along the course of its trunk. There was no alteration of sensation or motion, there was no mental aberration, there was no syphilis, there certainly was no neoplasms, which would have gone on for twenty years in this slow course without other special indications or results, there was no scrofulous tendency and no enlarged glands, along the course of the nerve. There was no evidence whatsoever of any intrathoracic or tumor or glands could produce such effect by pressure. I was forced to the conclusion that it was purely functional, affecting first the cardiac distribution, secondly the pulmonary and thirdly the gastric. The only cause to which I could attribute it was probably to the effect of excessive muscular effort in early and adult life, and the excessive use of tobacco, nicotine poisoning.

I had never seen such excessive results of tobacco. While he had used none for over two months, and despite the most careful and untiring treatment, his troubles had been exaggerated instead of being ameliorated. This was the result of my first visit, during which he was perfectly comfortable, pulse about 70 or 80, respiration normal, stomach quiet; he was cheerful, talked freely without distress, and was comparatively a well man. The next morning I accidentally met Dr. Tiffany on the street, who requested me to go at once to see his patient, who was then suffering an attack. I found him sitting on the side of his bed,

with his head supported on the back of a chair and had been thus for hours. His dyspnoea was excessive and most distressing, face pallid, pulse 200, not counted at the wrist, but with the ear close to the heart. With regard to this, there could be no mistake, as all three of us counted them in succession. There was persistent nausea and slight mucous vomiting. The following morning his pulse was 80, respiration normal, and his whole condition altered. And so, with these alternations, he continued as long as I saw him, and as far as I know, up to his death, which occurred some weeks after my last visit.

DR. THOMAS OPIE exhibited a patient with
FUNGOID GROWTH ON THE LEFT BREAST.

Mrs. F., forty-five years of age, married at twenty, and has had eleven full-term children and two abortions, her last pregnancy having ended four years ago. Her general health is poor and mental condition very much depressed. The growth began as a small nodule sixteen years ago, below the left nipple. She nursed her last child two years. A short time after weaning it, the tumor commenced to grow. On April 16th, 1888, Dr. A. L. Wolf, of Page County, Va., removed it when the size of a goose egg. Dr. Wolf writes that "after making the incision the tumor was readily enucleated by his knife handle and finger. The wound healed by the first intention and left only a slight scar. Four months afterwards, a second tumor came, about two inches from the seat of the first one, and in six weeks attained to a growth which weighed four pounds. The mass removed embraced the whole gland. The incision again healed by first intention, but the scar did not become so pale and small as did the other. About six weeks after the second operation there arose a sleek, purplish-red projection, which was followed by others, which soon bursted through the skin, with the present result: medullary sarcoma or fungus hæmatodes."

Mrs. F. was admitted into the hospital

December 11th. The tumor, the odor of which was unbearable, was dressed twice a day with surgeon's wool, after washing with a solution of permanganate of potash 5j to Oj.

The fungoid growth was removed December 18th. An attempt was made to effect it with the thermo-cautery, but it was quickly decided, in view of the hæmorrhage, to circumscribe and rapidly excise it, with the scalpel. An incision through the sound skin, an inch outside the diseased tissues, was made. The whole of the pectoralis major muscle under the mass was removed. The arteries were caught up as soon as severed, with catch forceps. The wound left, measured nine inches from above downwards and seven from side to side. During the latter part of the operation, the patient sank from loss of blood or shock and was given hypoderms of whisky. She rallied satisfactorily, the wound was dressed and she was put to bed. The pulse rate and temperature from the day after the operation to the time of her death on the tenth day, were as follows:

	A.M.		P.M.	
	Pulse.	Temp.	Pulse.	Temp.
Dec. 19th, 1888.	110	100	112	100.4
20th. "	116	100.2	116	100.2
21st, "	108	99.5	116	100.2
22d. "	116	99.4	130	100.5
23d. "	137	99.4	140	100
24th, "	128	98.5	140	99.8
25th. "	130	99.5	128	100
26th. "	130	103	140	103

On the second day after the operation the patient became very delirious, and continued in an insane condition until death ensued.

Billroth in his recent work on "Diseases of the Mammary Gland," page 63, "Wood's Library," 1888, says the four cases reported (by him) show how little infectious soft sarcoma of the mamma depends on age. The cases were in the 14th, 31st, 42d and 65th years. He says the differentiation of soft sarcoma from soft carcinoma and the different forms of soft sarcoma from one another, is principally and in part exclusively based on ex-

act microscopic examination and is the result of the progress made in the last ten years. He calls attention to errors of Velpeau, Erichsen, Gross and others in classifying such cases as these in the category of "encephaloids."

The following report was made by Dr. Keirle after examination of a specimen of the growth under the microscope: "The tumor is a recurrence after removal; in gross it looks like white brain matter (medullary encephaloid), with numerous fine red streaks; in consistence it is so soft as to easily break up on handling. Microscopically, it is made up of medium-sized spindle cells, with homogeneous, gelatinous intercellular substance. Much of this structure is undergoing fatty degeneration; the mammary tubes are full of proliferating large roundish cells, so that a lumen cannot be discovered. On cross section these tubes somewhat resemble epithelial nests (perikrebs, globes epidermiques): scattered throughout the section are numerous large, round cells with large nuclei; also numerous vessels with spindle cell walls.

"The growth is a sarcoma with epithelial proliferation, in reference to which the following is quoted from Billroth's *Surg. Syd. Soc. Ed.*, vol. ii, p. 426: 'There is reason to fear general infection, and besides this, a transformation into cancer in consequence of epithelial proliferation becomes possible.'"

BOOK REVIEWS.

ALBUMINURIA. By THOMAS GRAINGER STEWART, M.D., Fellow of the Royal College of Physicians, Edinburgh; Hon. Fellow of King and Queen's College of Physicians, Ireland; Physician in Ordinary to Her Majesty the Queen for Scotland. Pp. xi, and 250. New York: William Wood & Co. Chicago: W. T. Keener.

This book comprises a series of clinical lectures delivered during the past two years at the University of Edinburgh. They embody the views which the author at present entertains regarding the clinical questions discussed in his well known

work upon "Bright's Diseases of the Kidneys"—the last edition of which appeared in 1871.

The first chapter is devoted to the consideration of the various proteids found in the urine, together with their various tests, qualitative and quantitative.

Of the more recent tests for albumin in the urine, in point of delicacy the author gives the preference to picric acid. But he wisely remarks "delicacy is not the only quality required of a test. Indeed, it may be too delicate for clinical purposes."

In the second chapter Professor Stewart considers the "Incidence of Albuminuria among the Presumably Healthy." From the number of observations, and the care with which they have been conducted, some very important conclusions have been reached, more especially with regard to the relations of albuminuria to life assurance.

Systematic observation of the urine of 505 presumably healthy individuals was made. Some of the more important deductions reached through these researches are as follows:

(a). "That albuminuria is much more common among presumably healthy people than was formerly supposed, being demonstrable by delicate tests in nearly one-third of those examined."

(b). "That the existence of albuminuria is not of itself sufficient ground for the rejection of a proposal for life insurance."

(c). "That traces of albumin are not unfrequently present in the urine passed during the first days of life."

(d). "That excepting as above shown, the frequency of albuminuria increases as life advances, being rare in children and young adults, and common in men at or above sixty years of age."

In the third chapter the author considers the "Incidence of Albuminuria among the Sick" and from a large number of observations concludes that "cases of Bright's disease do not account for one-half of the cases of albuminuria."

The "Theory of Albuminuria" is ably discussed in chapter four. The author lays much stress upon inflammatory changes in the epithelium of the renal tubules as a frequent cause. He believes, however, that increased blood-pressure, as well as some conditions of the blood, favors its occurrence.

The succeeding five chapters are devoted to the consideration of the various organic diseases of the kidneys which are accompanied by albuminuria. The author's views upon these subjects are already very widely known through his excellent work on Bright's diseases. We may add, however, that the present matter is brought very fully up to date.

In the eleventh chapter the author discusses the important question of "functional albuminuria" in its various forms. In regard to the prognosis of these cases, the author believes that "Paroxysmal Albuminuria" has a slight tendency to culminate in renal disease. In "Dietetic Albuminuria" and "Albuminuria from Muscular Exertion" there is less tendency to such sequel. In "Simple Persistent Albuminuria" the prognosis is least hopeful, but in the author's experience "so considerable a proportion of cases have gone on for long periods" without culminating in organic renal disease that he is confident an unfavorable termination of these cases must be rare.

The excretion of the normal proportion of solids by the kidneys, and the absence of vascular changes, the author considers—we believe very wisely—to be the most weighty evidences against the existence of serious damage to the organs.

The last two chapters of the book deal with the management of albuminuria, including the diet. In the author's experience "raw egg albumin" when introduced into the stomach induces albuminuria, "that the albumin is always small in quantity," that "it disappears when ordinary diet is resumed," and that it is not egg albumin but serum albumin which is discharged. With regard to the use of cheese the author concludes that "when eaten in reasonable amount it has little or no effect in producing albuminuria in healthy people."

In organic renal disease the author does not expect much from the use of medicines save to combat complications. In albuminuria due to cardiac disease, however, "most strikingly good effects follow the use of appropriate medicines" such as digitalis, strophanthus, caffeine, convallaria majalis, etc. In "functional albuminuria" the author has found the best results from the use of arsenic, chloride of ammonium and iron.

Professor Stewart's book may be looked upon as a valuable contribution to the literature of albuminuria. His lengthy experience as a clinical teacher has enabled him to present the matter in a most practical form, and his industrious tabulation of statistics of the large number of cases observed greatly facilitates the study of the subject by the student and practitioner, while his well-known reputation as an author on renal diseases lends very great weight to the conclusions which he so clearly and pleasantly presents. We heartily recommend the work to all those who wish to make themselves acquainted with the most recent advances on the subject of albuminuria.

C. W. P.

ELECTRICITY IN THE DISEASES OF WOMEN,
WITH SPECIAL REFERENCE TO THE EMPLOYMENT
OF STRONG CURRENTS. By G. BETTON MASSEY,
M.D. Pp. viii and 210. 12mo. Philadelphia:
F. A. Davis. 1889. Price, \$1.50 net.

There will always be found some practitioners in any department of medicine who are so suc-

cessful in the use of their own methods, that they are eminently satisfied with them and are unwilling to employ any others. And thus there are gynecologists who succeed better with other agents and condemn electricity as the resource of charlatans or unskilful operators. But the world moves, and from each of the fashions of its day something is left which is a valuable contribution to the resources of medicine, and those who will carefully read what the author of this little book on Electricity in Diseases of Women has to say, will realize that that agent has in some particulars passed its experimental stage and is capable of accurate and satisfactory application.

The book has many good points. Its descriptions of apparatus and methods are perfectly clear and accurate, and will enable any physician to use even strong currents intelligently and safely. For his own current controller, an extremely simple and efficient instrument, he is entitled to the thanks of the profession.

The limitations as well as the uses of the agent as they are at present known are clearly stated. The author's style is exceptionally clear and terse, and the arrangement of the subject matter in the book is excellent. The illustrations are well chosen. And lastly, although amply covering the ground the book is small.

E. W.

BOOKS RECEIVED.

Essentials of Surgery. By Edward Martin, A.M., M.D.

Essentials of Anatomy. By Charles B. Nancrede, M.D.

Essentials of Medical Chemistry. By Lawrence Wolff, M.D.

Essentials of Obstetrics. By William Easterly Ashton, M.D.

The Waters of Plombières, Vosges. By Dr. Battentuit.

Clinical Lectures on Albuminuria. By Thomas Grainger Stewart, M.D., Edinburg.

Clinical Atlas of Venereal and Skin Disease. Parts III. and IV. By Robert W. Taylor, M.D.

The Vest-Pocket Anatomist. By C. Henri Leonard, M.D.

Transactions of the Association of American Physicians. Vol. III.

The Pathology and Treatment of Displacements of the Uterus. By Dr. B. S. Schultze.

The Annual Report of the Supervising Surgeon General of the Marine Hospital Service, 1888.

Guy's Hospital Reports. Vol. XLV.

Hand-Book of Materia Medica, Pharmacy and Therapeutics. By Cuthbert Bowen, M.D., B. A.

Wood's Medical and Surgical Monographs. Vol. I., Nos. 1 and 2.

Exploration of the Chest in Health and Disease. By Stephen Smith Burt, M.D.

International Pocket Medical Formulary.

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THE ETIOLOGY OF NEURALGIA.*

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I had hoped there would be a paper preceding my remarks in order to make clear what neuralgia is; for we shall find in discussing and studying the subject that it is rather a difficult thing in many instances to decide whether a given case of pain is to be considered as neuralgia, or as the result of an inflammation, deterioration, degeneration, or other change of a morbid character involving a nerve or nerve center. As there has been nothing said upon that point, I will take it for granted that the matter is understood, and that in speaking of neuralgias it is intended to speak of those pains that are sufficiently localized to be identified with nerve trunks, branches and terminals, and that are not produced by severe injuries, inflammations, or marked degenerations of a palpable character involving the nerve trunks or organs themselves. With that premise, I will speak of its etiology.

I would say in this connection that neuralgia is not a disease, but is rather a symptom of disease. We shall see that it may be caused by so many different conditions and lesions that it cannot be consid-

ered as a specific disorder. It must rather be considered as an evidence of disease involving the nervous system.

Now, when we consider the causes of neuralgia we shall find that they fall into several clearly-marked categories, such as used to be spoken of as predisposing causes and exciting causes, but it is rather difficult to draw a line between them, and therefore in my classification I shall consider as nearly as possible the actual causes of pain itself. In doing that we shall find, in the first place, that there are certain conditions which seem to predispose to its occurrence, that is, conditions of the body or of the general organization; and first among the predisposing conditions may be mentioned heredity.

Heredity is a very general term. It is made to cover that assemblage of characteristics derived from our ancestors; and we find that the physiological and pathological peculiarities of the ancestral stock have great influence over the diseases of the descendants. Persons who are subject to neuralgia are very frequently found to be the offspring of parents who have experience of disease in their own persons, and have been weakened in such a way as to weaken their offspring. We find a familiar illustration of this in the children of persons who are tubercular or scrofulous, who are the victims of nervous dis-

*Remarks made before the Chicago Medical Society, March 18, 1889.

eases, who have been addicted to alcoholic excesses. The children of such parents are more liable to neuralgia than the children of those who have been more favored in circumstances and mode of life. We shall see presently why this is so.

Age.—Another of these predisposing conditions is said to be age. It is observed that neuralgia occurs more frequently at certain periods of life than at others. It is more frequent among children during the period of rapid growth. We do not find it among very young children. It is then an uncommon thing, yet it does sometimes occur, but more particularly as they approach the period of puberty. As they pass through the period of second dentition they are more liable to neuralgia than younger children. As individuals pass through the stage of middle life, 20 to 40, they seem to be more liable still to the disorder. This is due to the fact that during these years of life there is a larger number of persons who are subjected to the causes that more immediately operate to produce it. As we pass that period of life—the 40th year—the number of persons who exceed that age diminishes rapidly in consequence of the fact that so many die, and the number who are left to experience neuralgia diminishes in proportion. After the period of decline is reached, we find there is a tendency to neuralgias of certain kinds that are dependent upon deterioration of the nerve centers, and it is to causes of that description that the majority of neuralgias which occur later in life are to be ascribed.

Sex has been thought to be one of the predisposing conditions. It is true, neuralgia occurs with great frequency among females, but that is due to the fact that a great many females suffer from conditions of debility and exhaustion, and are the victims of certain diseases that also favor the production of neuralgia. The other sex also are victims, not perhaps from the same causes, but the number of cases is sufficient

to lead us to believe that the female sex has no great monopoly in neuralgia.

Anæmia is another fruitful predisposing condition of neuralgia. It is to the existence of anæmia among the female sex that we must often ascribe the supposed predisposition of women. Starvation may be reckoned along with that condition. We find many persons suffering from unwholesome nutrition; the tissues are not properly nourished, and as a consequence of this imperfect nutrition of the tissues they become unstable in their organization, and more readily react to external influences. That reaction, if excessive, unusual or unnatural, will produce pain. We call it neuralgia. And among the other conditions that are allied to, and probably based in great part upon, anæmia, and upon an imperfectly nourished condition of the tissues, may be mentioned hysteria, neurasthenia, hypochondria. These, generally, constitute the conditions which are observed to predispose to the occurrence of painful affections of this character.

Exciting Causes.—We find these may be considered in two principal classes. Those that are molecular in their origin, consequent upon disturbances in the molecular constitution of the body; and a still larger class, perhaps, that are produced by direct intoxication of the tissues of the body, including the nervous tissues. Among the disturbances of molecular motion within the body, which produce either excessive, deficient or perverted modes of action may be reckoned cerebral commotion. This may have its origin in anything that produces over-excitement or agitation of the brain, as in the case of over-action of the sensory organs to powerful light, sounds, odors, tastes. All those reactions of the sense organs which are carried to excess may produce painful conditions of the nerves, which should be reckoned, strictly speaking, among the neuralgias. The same thing is true of commotions that originate under the activity of the intel-

lectual organs of the brain. A person who works too hard, gets too little sleep; who uses his eyes at night reading or studying, if he has passed the period of childhood, is very liable to suffer from neuralgic pain that localizes itself in the back of the head and neck, and is largely due to over-excitement of the brain and to lack of rest.

Then, again, over-agitation of the emotional organs of the brain will produce similar results. Electrical excitement of the nervous apparatus, occurring either as a consequence of electrical disturbances of the atmosphere, or as a consequence of medical abuse of electricity, may produce neuralgic pains. Perversions of the circulation, by their effect upon the molecular movements of the brain and of the nerve centers, may produce neuralgic pains, many of which are supposed to be due to errors of circulation, either excessive or deficient, involving the spinal cord, the sensitive grey matter of the nerve centers in the spinal cord, or of the brain itself which takes cognizance of the impressions made upon the sense organs of the body. We find the action of heat and cold, if carried to excess, productive of painful states of the nervous system. You are all familiar with the simpler forms of neuralgia produced by the action of cold upon the extremities of the body in winter when the weather is cold; heat also will produce similar or analogous effects, if the person is exposed to heat of any kind for too long a time.

We shall find, too, that intoxication of the nervous system with inorganic poisons is a fruitful source of pain. I merely mention in passing the familiar effects produced by the introduction of lead, copper, mercury, arsenic, carbon disulphide, carbon monoxide, compressed air, and substances of that class into the body. We may say that all the metals or any of the chemical elements introduced into the body in excess may become a source of pain.

You are also familiar with the effects of

metallic poisons of all descriptions. The gases also that belong to the inorganic kingdom, if they are introduced in excess into the body, may produce pains that are severe.

Then, we find that there is a class of intoxications in which the poisons that are derived by chemical process from the products of fermentation are capable of producing pain. Examples of these poisons are found in alcohol, chloroform, and ether. These substances are narcotic themselves. Several interesting cases have been reported of severe neuralgic pain following the administration of ether for surgical purposes. After recovery from the effects of the ether the patients for weeks and months have suffered with severe neuralgic pains. I mention these more common substances. All of the derivatives of fermentation are analogous to these, and, like alcohol, ether and chloroform, will be found in certain instances to be productive of painful conditions of the nerves.

Again, we find neuralgia may be produced by intoxication of the nervous system with vegetable poisons of the ordinary type, such as muscarine, opium, arnica, hydrocyanic acid, the solanaceous alkaloids, caffeine, thein, nux vomica, and many other kindred substances. Here we must pause to recognize the fact that there are two ways in which the nerve centers can be acted upon in a painful way. One is through the direct action of the poison upon the nervous tissue, and the other (usually observed in cases of chronic intoxication) is consequent upon the modifications of nutrition and the deteriorations of structure which follow these modifications of nutrition. It may sometimes be an open question for debate as to which of these two actions is the real cause of the pain in an individual case. This we shall see illustrated still further in cases of intoxication with poisons of parasitic origin, as, for example, where we have to deal with the essential poisons of the fevers,

such as typhoid fever, etc. At the outset of the fever the patient experiences intense pain, which is spoken of as headache, backache, aching in the limbs and in different parts of the body. This is due to the direct action of the specific poison upon the nervous organization of the body; then after the specific poison has run its course and has ceased to be primarily operative, we have disordered health, anæmia, semi-starvation, hysteria, and perhaps other conditions acting as secondary conditions that predispose to neuralgia. So that persons who are intoxicated in this way may suffer in a twofold manner from the consequences of the specific poisons.

It is occasionally observed that patients suffering with tubercular infection become the victims of intense neuralgic pains, which are supposed to be due to the action of the poison that is secreted or produced by the specific parasite. The same thing is true of syphilis and of gonorrhœa, after which may sometimes be observed that curious form of neuralgia, characterized by fugitive pains that persecute their victim for many months after the original infection has taken place.

Again, the poisons that produce septicæmia, pyæmia, and malarial infection, when introduced into the body, in like manner with the poisons that produce specific fevers, cause pain as one of their primary effects. As a consequence of alteration of the liquids and solids of the body through impaired nutrition thus occasioned, painful conditions may be perpetuated after the original poison has ceased to operate. In addition to the above must be mentioned the poisons derived from intestinal bacteria which exist in the stomach and intestinal canal and which, in conditions of ill health, produce large quantities of poisonous matter that is absorbed and circulated through the body operating upon the nervous apparatus, and producing a great deal of distress.

Lastly, we find that there is a class of

neuralgias dependent upon intoxication with poisons of auto-genetic origin—poisons produced by the morbid action of the cell elements of the bodily tissues themselves, such as occur in rheumatism, gout, uræmia, excess of sugar, matters concerning which the present state of our knowledge is very imperfect. Such, then, is the account I would give of the causes of neuralgia and their classification.

533 WEST ADAMS STREET.

A CASE OF ABORTION IN THE THIRD MONTH.

BY ELBERT WING, A. M., M. D.

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The recently published edition of Skeene's "Diseases of Women" contains a large number of reports of cases which are described in such a manner that their clinical history is clearly shown. The value of such reports to the recent graduate, and to the practitioner who for any reason is inexperienced, can scarcely be over-estimated. In the experience of the writer, his greatest difficulties and perplexities have arisen from an inability to find reports of cases similar to those which for any reason have taxed his knowledge, tact or therapeutic resources. And this, too, despite a preliminary hospital service, both as interne, and post-graduate student, as ample and extended as the current opinion in regard to medical education demands. In gynæcological work, this demand for clinical histories is admirably met in the book already mentioned, but in obstetrics, neither the translation of Charpentier published by Wood & Co., nor Parvin's "Science and Art of Obstetrics," are of any assistance in this particular. This clinical report, therefore, is furnished for two reasons, viz: To show the favorable course of the temperature without the use of medicines, and in the hope that it may be of value to any practitioner, equally or even more inexperienced than the writer,

who may chance to read it. And in the interest of brevity only pertinent facts are mentioned.

The patient is twenty years old, married, has one child eighteen months old, has had one prior miscarriage, and always during her menstrual life the catamenial periods have been very irregular.

In the present instance professional aid was first sought at 2:30 A. M., March 1st and the statement then made and the conditions found were as follows:

Menstruation had not appeared for "several months." (patient's statement), and with the intention of bringing it on the patient took a Turkish bath a few days before this date. During the afternoon of February 28th, uterine hemorrhage began and shortly became associated with uterine contractions. Medical assistance was evidently sought for the purpose of arresting the hemorrhage rather than the abortion.

Examination revealed the loss of considerable quantities of blood, a moderate uterine hemorrhage persisting, and the patient pallid but in good spirits. After removing the clots of blood from the vagina the placental membranes were felt protruding from the external os and lying partly in the vagina; the os and canal of the cervix would not admit the index finger. With the aid of a Sims' speculum the vagina was carefully dried with absorbent cotton, and a tampon placed which entirely filled and distended it. The pieces of cotton placed against and about the cervix were dipped in an aqueous solution of carbolic acid, two and one-half per centum, and squeezed partly dry before their introduction. A foetus at the third month was found in the clots.

The patient was next seen at eleven o'clock, eight hours after the tampon was placed. There had been no escape of blood from the vagina, and only a few of the balls of cotton were stained, and these were odorless. A part of the placenta, connected with the rest of that organ, and about one

inch long, lay in the vagina protruding from the external os. The index finger was easily passed through the internal os and the placenta found adherent about the left corner of the uterus. Under anæsthesia induced by Squibb's ether, the uterus was drawn down with volsella forceps fastened in the anterior cervical lip. Although the finger was easily introduced into the cavity of the uterus, it was very difficult to completely remove the placental fragments, and the conventional suggestion to use only gentle force could not be followed. A point of especial interest in this connection is the very marked superiority of Emmet's curette forceps over the finger or any of the various forms of dull curettes for removing the placental debris from the cavity of the body of the uterus. At the close of the curettement the intra-uterine douche was not employed because of the apparently complete removal of all placental tissue, and of the absence of hæmorrhage. By means of cotton wrapped upon an applicator, a mixture of equal parts of the tinctures of the chloride of iron, and of iodine, was freely applied to the cavity of the uterus. A copious vaginal douche of simple warm water was next given, and without either uterine or vaginal tampon the patient was put to bed with an ice-bag upon the hypogastrium. Careful directions were given to prepare and apply over the external genitalia and perinæum cloths dipped in a 1 to 1,000 solution of mercuric chloride. The nurse, who was untrained and not reliable, was also instructed to wash her hands with hot water, soap and a nail-brush both before and after changing the perineal cloths, and to use a 1 to 4,000 mercuric chloride solution in bathing the patient's perineal region and vulva.

The following copy of the clinical notes taken in the case will sufficiently explain its course from this stage:

March 1.—8 P. M. P. 112, T. 102.6°. Patient has had and has now only a very little pain either in the pelvic organs or

elsewhere, and the amount of tenderness on palpation over the hypogastric and iliac regions is very slight. No tympanites; no vaginal discharge.

March 2.—2 P.M. P. 108, T. 103°. Conditions are substantially those of yesterday except a slight vaginal discharge which has no odor.

March 3.—Noon. P. 96, T. 100.3°. The nurse reports a slight odor about the soiled napkins. In other respects the conditions of yesterday are unchanged. Directions given for a vaginal douche twice daily of a 1 to 4,000 mercuric chloride solution.

March 4.—3 P.M. P. 96, T. 100.2°. Bowels moved twice since yesterday. Conditions otherwise unchanged.

March 5.—3 P.M. P. 84, T. 99°. Bowels moved once. Vaginal discharge has no odor. Tenderness on palpation over abdomen scarcely more than normal. The appearance of the patient is that of health and comfort, and she says that she feels perfectly well. The use of ice over the hypogastrium stopped.

March 7.—2 P.M. P. 84, T. 98.6°. There is still a very slight odorless vaginal discharge. The patient declares herself free from pain and discomfort and wants to get up.

With the customary directions in regard to caution in resuming her usual occupation, the patient is discharged.

The temperatures given were taken in the mouth with a Hicks' thermometer which has been twice corrected and they are reliable.

3266 COTTAGE GROVE AVENUE.

THE DIFFERENTIAL DIAGNOSIS OF NEURALGIA.

BY DANIEL R. BROWER, M.D.

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We define neuralgia as a nervous disorder characterized by pain, and unconnected, so far as we know, with disease of structure.

There are great difficulties in the way of the diagnosis, growing largely out of the fact that its principal symptom is subjective, and may therefore present the most surprising varieties, due to idiosyncrasies. The essential characteristic symptom, however, is pain, which is limited to a definite trunk or branch of the nerve and its ramifications, and is usually unilateral. This pain is paroxysmal, either intermitting, or, at least, remitting in its character, and it is intensely acute and subject to a great variety of characteristics. There are certain points in the course of the nerve, or in its area of distribution, that are sensitive to pressure (points douloureux); and this pain has certain concomitant sensory symptoms, irradiation to other sensory nerves, and hyperæsthesia or anæsthesia of the skin in the region supplied by the affected nerve. Along with the pain there may be concomitant motor phenomena of a convulsive or paralytic type. There are certain vaso-motor disturbances, such as a diffuse or more or less redness or pallor of the skin; a sensation of coldness, and certain secretory phenomena, such as in the case of neuralgia of the fifth nerve; abundant lachrymation, nasal catarrh, and salivation, and in all cases there may be an increase in the urinary and cutaneous secretions, and certain trophic phenomena, such as change in the color of the hair, hypertrophy and thickening of various tissues, and also atrophy and emaciation, with skin affections, such as herpes zoster, urticaria, etc. The neuralgia is unaccompanied by any inflammatory or local symptom, or any general disturbance of the health, commensurate with the amount of pain endured.

Neuralgia of the fifth nerve may usually be diagnosed without much difficulty by the character of the pain, its intensity, its lancinating and paroxysmal character, by the painful points being well defined at the supra-orbital foramen, the infra-orbital foramen, and the mental foramen. It may

be mistaken for tooth-ache; careful examination of the teeth usually differentiates this. It may be mistaken for inflammation of the periosteum of the facial bones, or the membrane lining the antrum and frontal sinuses. The kind of pain, its seat, and the degree of sensibility to pressure usually differentiate this.

The diagnosis of the seat of neuralgia, as to whether it is peripheral or central, can only be made in a very few cases. We infer its peripheral seat if we find some evident peripheral cause from the possibility of cutting short the attack by remedies applied to the periphery, from the presence of painful points during the interval between the paroxysms, and the limitation of the pain to a single branch of the nerve. A point in favor of its central origin is the absence of painful points and the interval between the attacks, the disturbance of other cerebral nerves, associated with marked mental symptoms.

The diagnosis of *cervico-occipital neuralgia* is usually easily made. It is only liable to be confounded with muscular rheumatism, and its differentiation from this should not be difficult.

Cervico-brachial neuralgia requires special care in its diagnosis since the arm may be the seat of other painful affections, such as muscular and articular rheumatism, diseases of the bone, etc. Differentiation here is aided by the "points douloureux." They are the axillary, corresponding to the brachial plexus, the scapular, near the inferior angle of the scapula, the acromial, in the angle between this process and the clavicle, the median cephalic in the bend of the elbow, the ulnar corresponding to the most superficial portion of the ulnar nerve at the back of the elbow joint, and the radial at the point where the radial nerve becomes superficial. These puncta dolorosa would be absent in the affections for which the disease may be mistaken.

Dorso-intercostal neuralgia is most frequently confounded with rheumatism of

the thoracic muscles. The painful points are (1) close to the vertebral column corresponding to the point where the nerve emerges from the inter-vertebral foramen; (2) where the nerve emerges from beneath the skin at a point about the middle of the entire course of the nerve; and (3) where the nerve pierces the muscles close to the sternum.

A consideration of these painful points, in the absence of any special pain in the muscles, or any aggravation on making movements, will usually differentiate them.

Intercostal neuralgia may be mistaken for *angina pectoris*, but the intense fear, great anxiety, sense of suffocation, and disorder of the circulation attending the latter, will usually make differentiation easy.

Lumbo-abdominal neuralgia. The diagnosis is not unattended with difficulty. It may be confounded with myalgia, especially lumbago. In lumbago, however, the pain is usually circumscribed, does not radiate, is aggravated by stretching of the body and disappears with rest. The differentiation of this form of neuralgia from hip and knee-joint disease requires special care and attention.

The diagnosis of *sciatica* is often surrounded by considerable difficulty. The principal painful points are those which correspond to the sacral foramina, the fibular point at the head of the fibula, and the external and internal malleolar points. It may be mistaken for myalgia, differentiation being made by the diffuse character of the myalgic pain and by its being increased by definite movements. Sciatica may be mistaken for hip-joint disease, and the greatest care is necessary to avoid error here. The absence or presence of pain when the head of the femur is pressed against the acetabulum; the age and state of the general health; the elongation or shortening of the leg; the shape of the lower part of the back; attention to the painful points of neuralgia; the paroxys-

mal character of the pain, and its mode of distribution; the presence or absence of fever and inflammation, and the mode of carrying up the leg, are all to be considered in making the diagnosis. The sharp pains of locomotor ataxia are more frequently felt in the legs than in any other part of the body, and are often mistaken for neuralgia. Differentiation here is made by considering their changing seat and momentary duration, by their not following the nerve trunks; by the absence of the painful points, and by their frequently being so localized that the point of the finger will cover the seat of the pain: by the condition of the pupillary and patellar-tendon reflexes, and by the incoördination of muscular movements.

597 WEST JACKSON STREET.

CASE OF PERNICIOUS ANÆMIA SUCCESSFULLY TREATED WITH IRON AND ARSENIC.

BY FRED JENNER HODGES, M. D.,

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On Jan. 5th, 1889, Augusta Johnson, a Swedish domestic, single, aged 25 years, was admitted to the Gynæcological Ward under the supposition that the marked anæmia from which she was then suffering was secondary to, or symptomatic of, some uterine affection as yet undiscovered. Her only noticeable symptoms were extreme weakness and "bloodlessness." Not only was her face totally devoid of color, but her lips and the mucous membrane of her mouth were blanched and ashen.

Inquiry as to family and venereal history, habits, etc., elicited facts having only negative value. The menstrual function had been established without incident and she had always been strong and well until the spring of 1885, when she began gradually, and without evident cause, to lose strength and color, but did not emaciate in the least. These symptoms increased in severity for eight or nine months, when

they began to yield to treatment. From this time her recovery was rapid and complete, she feeling as well as ever until about six months before applying at the Hospital, at which time she began again to lose color and strength, but as before did not emaciate.

Examination upon admission showed the patient to be well developed and well nourished even to the verge of obesity. The skin had a natural feel, but was waxy in appearance; the lips and buccal membrane devoid of color, presenting an ashen hue. The conjunctivæ were of pearly whiteness.

Vaginal examination showed an intact hymen, a well-formed uterus in a normal position, and a cervical canal which easily admitted the sound. In other words, this examination was negative as far as determining the cause of her malady. Menses regular and with but little pain. The patient complained only of weakness following exertion, even of the slightest degree. Pulse 90, soft; temperature 99.2°; respirations about 18 or 20 a minute.

Heart.—Negative except that the second sound was perhaps a little shortened and accentuated. A blowing murmur was heard over the course of the great vessels of the neck, most marked on the right side. In this connection it may be said that the patient at times suffered from a pain radiating from just below the left nipple to a point beneath the right scapula. She complained also at times of a slight breathlessness upon going up even a few steps, but there was not the slightest œdema of the extremities nor has she ever suffered from rheumatism.

Lungs.—Examination entirely negative.

Spleen.—This organ was slightly enlarged.

Kidneys.—Urine acid, sp. gr. 1025, and contained no albumin, casts, or sugar. Was considerable in quantity and pale in color.

Stomach, Pancreas, etc.—There was almost complete anorexia, yet food once taken

did not cause distress. There was a particular aversion to fatty foods, yet an examination of the feces showed no failure of the pancreatic function. Bowels had as a rule been sluggish.

Ophthalmoscopic examination.—Each retina showed numerous yellowish spots having bluish-gray areolæ. Their average size was that of the macula, and they were most numerous in its locality. The disks were somewhat swollen and quite anæmic.

Microscopical examination of the blood showed (a) red corpuscles of the usual size and form; (b) white corpuscles in the proportion of 1 to about 85 or 100 red; (c) numerous irregular (rod- and kidney-shaped, globular and tailed) red corpuscles; (d) numerous highly refractive coccus-like bodies appearing much as would globules of oil; (e) irregular masses of a brownish-red amorphous material.

Diagnosis.—Idiopathic or pernicious anæmia, with an actual leucocytosis.

Desiring to test the efficacy of iron and arsenic in this class of cases the patient was put upon the following:

R

Massa ferri carb. ʒij
Liq. pat. arsen. s̄iiss
Syrup. limonis. s̄iij
Aquæ g.s. ad s̄ijv

Rub the mass thoroughly with the syrup, add the Fowler's Solution, and direct:

Teaspoonful four times a day. She also received at night a pill containing aloes, nux vomica, piperine, etc.

Two weeks afterward I find this entry on the history: "Lips begin to show color, patient says she feels better and has some appetite"; and one month from the time of her entrance she was discharged sufficiently recovered to enable her to engage in light work for the entire day without feeling the worse for it. An examination of the blood at this time fails to show further abnormalities than a slight excess (proportionately) of white corpuscles.

COOK COUNTY HOSPITAL.

EXTRACTS AND ABSTRACTS.

Notes on the Value of Some New Drugs.

—The drugs that I purpose to say a word or two about to-night are paraldehyde, urethan, antipyrin, and pilocarpin; and perhaps, in dealing with antipyrin, I may say a word or two upon my experience with other antipyretic drugs. In these go-ahead days I may be taken to task for calling these new drugs, and I had some doubt how to name my paper; but if I cannot call them new I most certainly cannot call them old, and no equivalent to the "subacute" of medicine came ready to my hand. Let me also say that I do not propose to treat of these drugs from any other than my own standpoint; it is simply my object to say in what I have found them useful, and ask you for such experience as you may have of the same agents in similar or other fields. Thus I shall hardly, if at all, discuss the actions of the remedies, nor is it my object to give even a summary of the diseases in which they have been used or recommended.

Now, first of all, *paraldehyde*. It has been *out*, so to speak, for several years, but I do not think it is at all in common use. I am rather fond of it, and have given it frequently now certainly for three or four years, and that means in a large number of cases. Originally recommended, I believe, as a hypnotic, one that combined the advantages, to the exclusion of the disadvantages, of chloral and bromide of potassium. I tried it first of all in cases of insomnia. I do not consider it at all a reliable drug for that state of things; but it is a drug of unquestionable value in the restlessness and cardiac asthma so often seen in aortic disease, and in the laboring dilated heart of chronic Bright's disease. I well remember the first case in which I gave it some years ago, a man who had long been subject to gout, and who had a granular kidney and a large dilated heart. His distress was extreme, and I had ex-

hausted all the old-fashioned remedies (than which few new are better), and many new, including caffeine, and with a marked condition of Cheyne-Stokes' breathing, he had all the aspect of speedy dissolution. As a last resource I gave him half-drachm doses of paraldehyde, with marked relief to the end of the case, which occurred about a fortnight later. I have also found it occasionally useful in the headache of renal disease. In two cases, where this was especially troublesome in the early morning, it was taken on and off for many months, with great relief. As a general rule, nitro-glycerine is the more reliable remedy for the headache of Bright's disease, but the symptom is often a troublesome one, and paraldehyde may well be kept in memory for occasional cases. But there is another class of cases in which I think it of even more use. It was recommended some few years ago, I think by Dr. Strachan, for certain cases of mania, and some three years or so ago I had to deal with a very troublesome case of alcoholic delirium. The patient was a very free drinker, had had delirium tremens twice before, and was now in a low, muttering, sleepless condition, which nothing seemed to quiet or control. He had been in a semi-comatose state already for five days. He was quite unheeding of any one about him, talked in an unintelligible mutter, and his muscles were tremulous, flabby, and wasted. As his wife was his equal, if not his better half, in drinking capacity, he was sent into Guy's Hospital, and for eighteen days he remained in much the same state. During that time his treatment consisted of free aperients, iodide and bromide of potassium, opium, and latterly of subcutaneous injections, first of $\frac{1}{100}$ grain, and then of $\frac{1}{60}$ grain of hyoscyamine; none of them seemed to do him any good. I then tried half a drachm of paraldehyde three times a day, and within a day or two he was much clearer in his mental condition, and before a week was

out he was practically well. He remained somewhat feeble-minded for some little time, but he quite recovered eventually. Since then I have given it in similar cases several times. Whether it acts as a stimulant or a sedative I do not know, but it certainly sometimes quiets the delirium and clears the mental faculties. My friend Mr. Wornum lately ordered it in another such case, but it was only given in ten-minim doses. The general condition improved decidedly, but the mental condition still remains cloudy. However, the patient has come out of a semi-comatose state, and is now sitting up, although she still suffers from delusions.

Another case of what I think may be called a similar ailment was treated in a similar manner. A young fellow, aged 27, had typhoid fever badly; he became excessively emaciated, and not long after the fever left him he went off his head: he was very delirious and troublesome. Free stimulation failed to restore him, and he was, therefore, ordered half-drachm doses of paraldehyde. This was on the 5th of the month. The stuff was so nasty, he said, that he would take no more, and when I again saw him, on the 11th, it had not been persevered with. He then began it regularly, and within four or five days he was much clearer and less delirious, and at the end of a week he was practically well. * * * * *

Of *urethan* I have not much to say, but that little is in its favor. I have used it in a large number of cases as a hypnotic, and although it often fails, I think it is one of the best remedies of the kind since the introduction of chloral. I give it in fifteen-grain doses in water, and have often found it useful; and once I remember it was very so in relieving the headache of early typhoid.

Of *pilocarpin* I have only two points that I wish to make. I have, of course, used it quite commonly in Bright's disease, and still do as a usual thing, and it seldom

fails to induce a copious diaphoresis; but one day it occurred to me to order a third of a grain as a subcutaneous injection in a case of chronic jaundice with intense itching. It occurred to me that a drug which so uniformly was productive of speedy diaphoresis must profoundly modify the functions of the skin for the time being, and might in doing so relieve the itching which has hitherto, in my experience, defied treatment. It did so quite beyond my expectation, and kept the patient comfortable until she died. In the next case it was equally successful. The patient had one-third of a grain injected subcutaneously many times, and always with this result, that the first twenty-four hours he was quite free, the second he was fairly free, and the third day he was getting bad again, and the dose had to be repeated. I next tried it on an old lady who suffers from very frequent attacks of gall-stones. She is equally decided as to the relief she obtains, but her pleasure is to some extent marred by her skin being for the time converted, as she describes it, into the similitude of that of a laundrywoman. I have had six cases in all, and in none has it failed; and when we consider that really there is nothing that can be relied upon to relieve this most distressing feature of jaundice, I hope the suggestion may prove of service. The other class of cases in which it seems to me to be occasionally of value is where the lightning pains of locomotor ataxia are severe. I have two or three times found it useful in these cases when many other means had been tried and failed.

Of *antipyrin* I am almost afraid to speak, for just now it is such a fashionable drug that it would well-nigh be easier to say for what diseases it had *not* been recommended than to enumerate those for which it had. But it does seem that it is likely to achieve a permanent name for abnormal nerve discharges of various kinds, and chiefly those that have been, I think happily, designated

as the "paroxysmal neuroses." For instance, there can, I think, be no doubt that it is a very valuable means of combating some migrainous headaches. From what others have told me, and from what I have occasionally seen myself, it would appear to be a remedy of value in some cases of dysmenorrhœa—cases which might, I think, not unfairly be designated as pelvic catamenial neuralgia, if the gynæcologists will forgive me for venturing to have an idea outside my own lines. * * *

Antipyretics have been advocated by some in enthusiastic terms for the sudden and sharp febrile states that are met with in childhood, and I am far from saying that in such they may not be of use. I believe they may be of great use in that special condition known as hyperpyrexia—or rather in the states which threaten it—because in it the rise is very sudden, the attack is of the nature of a sudden storm-blast, and the tissues may be irreparably withered by it. In the same way in children sudden fever may do irreparable damage to their succulent tissues, and a dose of antifebrin or antipyrin may avert this. Nevertheless, it will occur to all of us that the attacks in which they seem to be so beneficial are just those whose nature is to subside as suddenly as they come, and I do not think that the evidence they afford is as yet conclusive in favor of these remedies.

But to go back to antipyrin in its power to depress abnormally high temperatures and to dissipate a migraine or pelvic neuralgia, we have evidence of some powerful influence on the nervous centers, and it is not far thence to the question, Might it be useful in other neurotic states? And it has been tried of late in two very troublesome ailments, namely, chorea and whooping-cough. I have no personal experience to relate as regards the latter, but it has been spoken of very favorably by Sonnenberger, Wendt, and Genser. Sonnenberger has tried it in about seventy cases, the

dose varying from one-seventh of a grain in very young children to fifteen grains in adults three times a day. Wendt followed the former writer's suggestions, and states that the drug served him better than any other; he claims no cures, but it favors an easy course to final recovery, a mitigation of the paroxysms and a reduction in their number, and certainly a freedom from complications. Genser also asserts that antipyrin always diminishes the number of the coughs in the twenty-four hours, and controls the intensity; the duration of the disease seldom extended over twenty-four days—a very good record, as all will allow, if it be borne out by other observers. The mean dose was a grain and a half a day for each year of age; but I should say myself that the drug might be pushed to the extent of $1\frac{1}{2}$ grain per year three or four times in the twenty-four hours if necessary.

As regards chorea, I can speak—to some extent and tentatively—favorably. I have given it in the last five cases that have come under my observation. In four the result may, I think, be considered to have been good. Thus a girl, aged 8, was admitted for her fourth attack of chorea. It was general and rather severe, and she had mitral disease (probably contraction) also. She was put upon two-grain doses of antipyrin three times a day, and after five days it was noticed that there was a marked improvement in the choreic condition, the face muscles especially being quieter. The dose of the drug was then increased to four grains three times a day. She continued to improve for ten days, and by that time the movements had lost all their violence, when the drug was discontinued for arsenic. The minor movements remained for some time, as is usually the case with any treatment. She left the hospital practically well after seven weeks.

In another case a boy of 12, who had had rheumatic fever twice and chorea on and off for a long time, was admitted to Guy's Hospital with marked but not violent

chorea of face and extremities and aortic regurgitation. He was put upon five-grain doses of the drug three times a day on the 24th of the month; on the 29th the movements were noticed to be less marked, and on the 31st they were not noticeable, and he remained well afterwards. He took the drug for twelve days altogether, and it was then discontinued because of an erythematous eruption that appeared. He was in the hospital three weeks.

A third case, a girl of 8, under the care of Dr. Cooper, of Rotherhithe—a very bad case indeed, associated with much wasting, imbecility, paralysis, and pericarditis—was given also five grains three times a day. She took it for eight days, and was by that time so much improved that it was discontinued for iron and digitalis. The improvement began within forty-eight hours after the commencement of the antipyrin.

A fourth case, now in Evelina Hospital, a girl of $9\frac{1}{2}$, came in on November 26th with general rather violent chorea. I gave her five-grain doses every six hours, and on the 29th increased it to ten grains every six hours. On December 3d she was lying in bed hardly choreic. In this case, however, although the chorea was manifestly better, she suffered from antipyrin poisoning. After three or four days a copious measly rash appeared, with high fever and albuminous urine, and then it was necessary to stop the drug.

The other case, under the care of Dr. Steele Perkins, of Streatham, was made worse by the treatment, and it was given up after ten days. I shall not indulge in any exuberant anticipations, but, remembering how very troublesome chorea is, I think there is enough evidence at hand to make us believe that, at any rate in some cases, antipyrin may prove of service. Legroux and Dupré have given it in twenty cases in doses of about seven grains five or six times a day, and they conclude that it is one of the most certain and harmless

remedies for chorea, the improvement usually commencing in four to six days.

Before closing, perhaps I may be allowed to add a word not upon a new remedy, but upon an uncommon method of administration of an old one. I refer to the subcutaneous injection of *strychnine*. There is, of course, nothing novel in this. Nevertheless, I am under the impression that strychnine is not often administered in this fashion. Dr. Habershon has advocated its use thus in cases of cardiac failure, and during the past year I have had three troublesome cases of more or less general paralysis that have, for such cases, rapidly improved by its means. One was a case of peripheral neuritis due to alcohol and lead poisoning combined. He was in a very tremulous condition when admitted. Many of his muscles were much wasted. He had a good deal of pain in the course of various nerves, and he was both sleepless and demented. Various drugs were administered, and he was assiduously galvanized, but he became decidedly more powerless. By-the-bye he had a subcutaneous injection of hydriodate of hyoscyne, first $\frac{1}{200}$ of a grain and then $\frac{1}{100}$, and this certainly seemed to quiet his nocturnal delirium, and procure him sleep. On November 4th I ordered him $\frac{1}{60}$ grain of strychnine to be injected hypodermically twice daily. On the 14th it was increased to $\frac{1}{50}$, and by the 31st he was taking $\frac{1}{34}$ twice daily. By this time it was noted that the movements of the patient's hands and arms were much more lively, and there was a gain in the grasping power of both hands. From this time he made continuous improvement. The injection was continued for another month, and was then omitted, chiefly because it caused, or he thought it did, severe pain in his ulnar nerves, which, he insisted, came on soon after the injection, and caused him great misery for several hours afterwards. He had had this pain before the commencement of the injections, and my clerk, Mr. McIlwaine, had doubts about

the reality of the cause, but the man was very positive, and I think he was very probably correct. His ulnar nerves were clearly those most affected by his disease, and it is fair, therefore, to suppose that the remedy acted upon them in excess.

A second case was one of general paralysis, dysphagia, diaphragmatic palsy, and reaction of degeneration in the muscles in a young man aged 27. All the history that he could give was that, being a carman, and of late carrying sacks of coal, he had, a month before his admission, felt generally out of sorts and easily fatigued. A week later his finger-tips became numb, and then his toes, and gradually he lost all power in his legs, and then in his arms. He was at first given iodide and perchloride of mercury, and he steadily got worse. Then he had three-minim doses of liq. strychniæ given internally; but, as he was steadily going down hill, and was swallowing and breathing so badly that I quite feared for his life, I changed the internal administration of strychnine to the hypodermic method after a week. He had $\frac{1}{50}$ grain injected night and morning. This was commenced on the fifth, and on the ninth the report stated that there was a marked improvement in the strength of the right arm, and there was considerable improvement in sensation. By the thirteenth he was beginning to have slight control over his legs. His pains, before rather troublesome, were not so severe, and the patient seemed altogether better; and he rapidly improved from that time, so that at the end of a month he was able to get up and about feebly. He is now, many months later, quite well. It might be added that the real nature of the case still remains obscure to me. The completeness of the paralysis, coupled with his occupation, and a doubtful thickening and prominence over the second cervical vertebra, made me think at first of some cervical pachymeningitis, but I subsequently inclined more to the diagnosis of peripheral

neuritis, albeit the cause of it could not even be suggested.

I must only inflict one other case upon you. It is that of a man aged 41, who was admitted for loss of power in his right leg, and incontinence of urine. He came in with these symptoms, and there was, on careful testing, some loss of sensation in the opposite leg. His bladder was running over. This and the paralysis made one suppose that there was disease in the cord, rather than outside it, and I feared he had some transverse myelitis, worse on the right side. He had not been in the hospital long when he lost the use of the other leg. He had at first some iodide of potassium and perchloride of mercury. But not finding any marked improvement after a fortnight, I changed it to two-minim doses of the liquor strychniæ of the *British Pharmacopœia*, twice a day, and at the end of five weeks he was up and walking about the ward. He is getting about fairly well now, with some clonus and exaggerated reflexes on both sides; but his chief trouble is frequent micturition, possibly due to some slight vesical irritation still remaining.—*James F. Goodhart, M.D., in the British Medical Journal.*

The Relative Value of Opium, Morphine, and Codeine in Diabetes Mellitus.—Since Payy's recommendation of codeine as a remedy having advantages over opium and morphine in the treatment of diabetes mellitus, codeine has been much used, and has even to a large extent displaced opium and morphine in the treatment of this disease.

There are at the same time no clear pharmacological data in support of this preference. Indeed, the data are not even such as to suggest it; for notwithstanding assertions of a like superiority in the relief of various symptoms of other diseases, the facts, so far as we know them, seem to show that, pharmacologically, codeine is in its most important actions merely a weak morphine. This conclusion is supported

by the circumstance that in its chemical structure it differs from morphine only in containing methyl—that in fact it is morphine diluted by the addition to it of the relatively inactive substance, methyl. In regard to its therapeutic effects in those conditions, other than diabetes, in which it is now commonly used, I have also failed to obtain any evidence that it acts otherwise than a weak morphine; for example, in the relief of cough, the production of sleep, or the removal of pain whether in the abdomen or elsewhere.

These considerations, as well as the special suitableness of the disease for such comparison, and the probable value to therapeutics of any decisive results that might be obtained, induced me, several years ago, to make some observations for the purpose of comparing the effects of codeine with those of opium and morphine upon the more important of the phenomena of diabetes mellitus.

Observations of a detailed character have been made on four patients, with results of a concordant kind: but I propose to describe, by way of illustration, the results that are of most importance in one of these patients only, on whom, incidentally, some observations were also made with atropine.

This patient, M. B., aged 26, came under my care in the Royal Infirmary of Edinburgh, on October 5th, 1887, suffering from thirst and frequent micturition. None of her immediate relations had suffered in a like manner. She was a nursery maid, and had lived in comfortable houses, and been supplied with abundant and good food. The first symptom of her illness was thirst, which showed itself about seventeen months prior to her admission, and had led to the discovery that she was suffering from diabetes mellitus. She was treated for this illness, but without much effect, and she soon became very weak, and lost flesh, so that in twelve months her weight was only eight stone, whereas im-

mediately before this illness it had been ten stone. Notwithstanding careful and strict dieting, the emaciation advanced, and she weighed only seven stone four pounds when she entered the Royal Infirmary. She was then dyspeptic, and moderately anæmic, but she did not suffer from constipation, nor was the liver enlarged. There was no disease of the respiratory or circulatory systems. The eyes were hypermetropic, the skin dry, and the temperature slightly subnormal.

The patient was in the hospital from October 6th, 1887, to July 10th, 1888, and the observations to which I shall now draw attention occupied the whole of this time. The general plan followed was to allow the patient ordinary diet for one period; then to adopt a carefully restricted diet; then this diet with codeine, in doses varying from half a grain to five grains thrice daily, and for a short time with one-sixtieth and one-thirtieth of a grain of sulphate of atropine thrice daily; then restricted diet alone; then restricted diet, first with opium alone, in doses of half a grain to one grain and a half, and afterwards with opium and sulphate of atropine; and, finally, restricted diet with hydrochlorate of morphine. The administration of morphine was not preceded by an interval in which restricted diet alone, and without any medicinal treatment, was adopted; as in the period immediately preceding that of the administration of morphine, in which no medicine was given, the patient had become dull, languid and sleepless, she had complained of sickness and loss of appetite, and in a few days had been unable to leave her bed.

During the whole of the nine months in which the patient was under observation and treatment, with the exception of only a few days occurring now and then, the quantity of fluid drunk, the quantity of urine voided, and the specific gravity of the urine and the amount of urea and of sugar contained in it, were each day recorded. The weight of the patient was

ascertained from time to time, and a careful record was made of her diet, and also of her general state of health. The daily observations are too numerous to be communicated to the Section.

To state the results in another way:

1. The case was one in which mere restriction of diet did not have so marked an effect as occurs in many cases. The prospects of successful treatment were not, therefore, very hopeful.

2. Codeine had a very decided effect in reducing the quantity of urine, sugar, and urea. When contrasted with the reduction produced by restricted dietary alone, the addition of nine grains of codeine in the day lessened by about one-third, and of fifteen grains of codeine in the day by about one-half, the quantity of fluids drunk, and the quantity of urine, sugar, and urea, and it slightly reduced the specific gravity of the urine.

3. The addition to fifteen grains of codeine of the one-twentieth, and afterwards of the one-tenth, of a grain of sulphate of atropine, caused a still further, though not a large, reduction.

4. After the administration of codeine had been stopped, an interval of six days on restricted diet, without any medicinal treatment, was not sufficient for a deterioration to occur to the conditions present before codeine had been given.

5. The subsequent administration of half a grain of opium thrice daily produced a considerable reduction. With one grain of opium thrice daily the reduction was to less than one-half, when contrasted with the amounts during a restricted diet alone, and before any medicinal treatment had been adopted. One grain and a half thrice daily produced a further reduction; and when to it was added one-twentieth of a grain daily of sulphate of atropine, a still further reduction occurred.

6. Restricted diet, with one-third of a grain of hydrochlorate of morphine thrice daily, or one grain daily, also produced a

marked reduction; and the conditions relative to the points under investigation were even more satisfactory than when fifteen grains daily of codeine were being administered. While this small quantity of morphine was being taken, the fluids drunk by the patient were only one-third, the urine and sugar less than one-half, and the urea about one-half of the amounts during the period of restricted diet alone, before medicinal treatment had been commenced.

As to the general state of the patient during each of these conditions of treatment, restriction to an antidiabetic dietary produced improvement in thirst and mental activity. So long as the quantity of codeine was limited to six grains daily, this improvement was maintained; but when nine grains, and even more, when fifteen grains were being taken daily, the appetite failed, she became listless and apathetic, vertigo was occasionally experienced, and the patient remained for a considerable part of each day asleep in bed. The addition of atropine to the codeine did not produce any improvement, but rather added to the discomfort by impairing vision; and even when only one-sixtieth of a grain was being taken thrice daily, the pupils became slightly dilated. When codeine and atropine were stopped, and a restricted dietary alone adopted, the health was not improved. The symptoms referred to became, indeed, worse, and prevented a prolongation of the period of restricted diet without medicine to the extent that seemed desirable before a new plan of treatment was adopted. When opium was now given a marked improvement occurred, but the larger doses caused some drowsiness during the day. With one grain daily of hydrochlorate of morphine the condition of the patient became more satisfactory. The drowsiness soon disappeared, the appetite improved, and she became sufficiently active to engage in ward work. Constipation of the bowels was not produced by any of the medicinal agents employed.

A consideration of these averages seems to show that, under a daily administration of one grain of hydrochlorate of morphine, the quantity of fluids drunk, and of urine, urea, and sugar voided, was rather less than when three grains of opium, and decidedly less than when fifteen grains of codeine were being taken. In three other cases in which I have instituted a comparison between these substances in diabetes mellitus, morphine also showed a marked, though not so great, superiority over codeine. After this note had been prepared, I have seen a recent paper by Dr. Bruce, of London, in which similar results were obtained in two very carefully observed cases. So far as I know, also, the favor with which codeine is regarded in this disease has not been supported by any observations calculated to show its value relatively to opium or morphine so clearly as in the cases to which I have referred.

The evidence, therefore, seems to indicate that codeine is a less powerful remedy in diabetes than either opium or morphine, and to confirm the view that in its therapeutic value it ranks as a weak or diluted morphine.

The conclusion receives an importance (no doubt a subsidiary one) from the circumstance that codeine is about three times as expensive a substance as morphine. The great demand for it has led to its being manufactured from morphine so largely, that probably one-fourth of the codeine in the market is an artificial substance. When we consider the large doses that are required in diabetes mellitus, and the generally protracted duration of this disease, we are, I think, justified in asking for more clear evidence of its superiority over morphine than has as yet been produced.—*Thomas R. Fraser, M.D., in The British Medical Journal.*

Guy's Hospital Lying-in Charity.—In volume XLV of *Guy's Hospital Reports*, re-

cently issued, may be found the sixth report of the lying-in charity of the Hospital, from October 1, 1875, to September 30, 1885, collated from the records by Dr. P. Horrocks, and published by the collator and Dr. Gallabin. The report is interesting on account of the number of cases confined in the Hospital during the ten years—25,489, or an average of 2,548 a year.

The analysis of births is as follows: 25,489 women attended, with 25,777 births: single births 25,201: dual births 558, triple births 18. The viable children living at birth were 24,640, or 96.46 per centum: viable children stillborn 983, or 3.84 per centum; undescribed 13—total 25,636. Non-viable children living (few minutes to several hours) 17: non-viable children still-born 124. Of the viable children 13,520

were males; and 12,097 females, the ratio being as 100 to 89. In 19 the sex was undescribed. Of the non-viable children 56 were males, 34 females, and 51 undescribed.

Of the 24,582 viable living children of whom the sex is given, 12,941 were males and 11,641 females, or as 100 to 90.

The presentations were as follows:

Presentation.	Males.	Females.	Total.	Per cent.
Vertex.....	12,622	11,316	23,938	97.38
“ and head..	36	20	56	.23
Breech.....	153	178	331	1.34
Foot.....	60	72	132	.54
Face.....	41	32	73	.30
Upper extremity	7	5	12	.05
Transverse.....	2	7	9	.04
Brow.....	8	4	12	.05
Funis.....	12	7	19	.07

Of the viable stillborn children 547 were males and 425 females, or as 100 to 78.

The presentations were as follows:

Presentation.	Condition.	Males.	Condition.	Females.	Total.	Per cent.
Vertex	{ Full term..... 326 } { Decomposed..... 3 } { Premature..... 38 }	367	{ Full term..... 246 } { Decomposed..... 6 } { Premature..... 33 }	285	652	= 67.1
Vertex and hand	{ Full term..... 5 } { Premature..... 1 }	6	{ Full term..... 4 } { Premature..... 1 }	5	11	= 1.1
Breech	{ Full term..... 57 } { Decomposed..... 1 } { Premature..... 8 }	66	{ Full term..... 62 } { Decomposed..... 2 } { Premature..... 3 }	67	133	= 13.7
Foot	{ Full term..... 44 } { Decomposed..... 1 } { Premature..... 13 }	58	{ Full term..... 30 } { Decomposed..... 0 } { Premature..... 4 }	34	92	= 9.5
Face		4		3	7	= .7
Upper extremity	{ Full term..... 15 } { Premature..... 1 }	16	{ Full term..... 7 } { Premature..... 0 }	7	23	= 2.4
Transverse		7		1	8	= .8
Brow		2		0	2	= .2
Funis	{ With vertex..... 12 } { “ breech..... 2 } { “ foot..... 1 } { “ arm..... 5 } { “ transverse.. 1 }	21	{ With vertex..... 12 } { “ breech..... 1 } { “ foot..... 6 } { “ arm..... 3 } { “ transverse.. 1 }	23	44	= 4.5
		547		425	972	

There does not appear to be any relation between the sex of the children and the fact of the amniotic cavity or placenta being double or single.

There were, of the 6 cases of triplets, all males in 1 case, all females in 3, one male and two females, and two males and one female, 1 each. The presentations were:

Vertex, vertex and vertex.....	2
“ “ “ breech.....	1
“ breech “ foot.....	2
“ “ “ transverse.....	1

Out of 18 children, 4 were stillborn, a mortality of 22.2 per centum, or 1 in 4.5. No instrumental aid was given in any of these cases. In one case the woman was a primipara.

There were 80 face presentations, giving 73 living and 7 dead children. In 74 cases delivery was accomplished by natural efforts, 5 children dying, one being an anencephalous foetus. In 6 cases instruments were used, the forceps in 4, the cephalotribe in 2. In the forceps cases all the children were born alive, though one died within twenty-four hours. In two cases the forceps were removed after some traction had been made, and the cases were left to nature. Excluding the two anencephalous foetuses, there were 5 deaths in 78 cases of face presentation, or 6.4 per centum.

The following table shows the proportionate number of the several presentations for the whole number of viable children, and the percentage of such children still-born under each presentation:

Presentation.	Per cent.	Percentage stillborn.
Vertex.....	24.590 = 96.22	2.7
Vertex and hand.....	67 = 26	16.4
Breech.....	464 = 182	28.7
Foot or knee.....	224 = 88	41.1
Face.....	80 = 31	8.7
Upper extremity.....	35 = 14	65.7
Transverse.....	17 = 7	47.0
Brow.....	14 = 5	14.3
Funis.....	63 = 25	69.8
25.554	100.00	

The death-rate in the viable children in the present report is 3.84 per cent. In the last report the death-rate in children was 4.08, in the last but one 4.6, and in the preceding twenty-one years it was 5.2 per cent. In connection with this great improvement, it is interesting to note the greatly increased use of the forceps. Not only have they been used twice as often as in the last series, but recourse has been had to their use at an earlier period of the delayed labor, and thus the children have had a better chance.

Taking foot and breech presentations together, the children stillborn are in the proportion of 1 in 3. In the last report the proportion was 1 in 2.5, and in the last but one 1 in 2.7. There were 279 twin cases, or about 1 in 91 of the whole number of women delivered, or about 1.09 per

centum. In 89 cases both were males, both females in 88, and one of each in 102 cases. The presentations were:

	Presentations.	
Vertex in both.....	125	
" and vertex with hand.....	6	
" and breech.....	72	
" and foot.....	36	
" and upper extremity.....	3	
" and transverse.....	2	
" and face.....	1	
Breech in both.....	12	
" and foot.....	7	
" and upper extremity.....	1	
Foot in both.....	8	
Not given.....	6	
	279	

There were 63 cases of funis presentation, with 19 living and 44 dead children. In the last report only 8 were living out of 62. Of the present series there were 36 vertex presentations, 16 breech or foot, 9 upper extremity and 2 transverse. In 7 cases, of which 4 were vertex, 1 transverse, 1 upper extremity, and 1 breech, the funis had ceased to pulsate before the arrival of assistance. In 16 cases version was performed: 11 podalic, 2 cephalic, and 3 not stated. In one case of podalic version the child was alive: all the others were still-born. Forceps were used in 8 cases, of which 6 were vertex and 2 upper extremity. In one of the vertex cases the child was saved: the others were dead. The funis was replaced in several cases, and in 4 cases it remained in the uterus. Of these 4 cases, 3 were vertex and 1 upper extremity, the last being stillborn, but in the 3 vertex cases the children were saved. Craniotomy was performed in 4 cases.

The brow presentations numbered 14, with 12 living and 2 dead children. Version was performed in two cases, both children dying; in one of these the forceps was used to the after-coming head. The forceps was used in 1 case, and the child born alive. Eleven cases were left to nature, all being born alive, the presentation being converted into a face in some cases. It appears that the child has a much better chance in brow presentations if left to nature or if forceps are used.

The upper extremity presented in 44 cases, and in 9 the funis was prolapsed. There were 19 transverse presentations, and in 2 the funis was prolapsed. Of the 63 cases, 6 were completed by natural efforts, 4 by spontaneous evolution, all stillborn, one by spontaneous version, and one case was delivered spontaneously, but by what method is not stated. Version was performed in 50 cases, 18 children being living and 32 stillborn. Podalic version was performed in 45 cases, all the mothers recovering save one. In the 3 cephalic version cases one child was living and the other two were dead. In 2 cases the kind of version is not stated. Of the 63 cases, 22 children were living and 41 were dead. Comparison with the last report shows that the number of cases of presentation of the upper extremity and transverse presentations has decreased, and that the mortality of the children is very much less. In the last report deaths of two mothers were recorded; in this only one.

Out of 25,636 births of viable children, protracted labor was terminated by forceps in 274, or 1 in 93—about 1.07 per centum. In the last report, out of 23,591 women attended, 121 protracted labors were terminated by forceps, or 1 in 97—0.51 per centum. In the present series, therefore, the forceps have been used more than twice as often as in the former series; but this report includes the cases in which forceps were used for accidental hæmorrhage and for eclampsia, which were omitted from the last report. The increased use of the forceps has undoubtedly saved many mothers a great deal of pain, reduced the mortality of the children, and probably also of the mothers; but it did not decrease the number of craniotomy cases, so that it will be seen that forceps have been used more frequently in cases of uterine inertia and slight obstruction, which might perhaps have been terminated by natural efforts alone if left long enough.

Of the 274 forceps cases, 11 mothers

died; 6 from septicæmia, 3 from hæmorrhage, 1 from bronchitis, and 1 from heart disease, making the mortality 4 per centum, practically the same as in the last report. Of the 274 children, 237 were living, 36 dead, and 1 undescribed. Excluding the child about which there is no statement, we have 36 dead out of 273, a mortality of 13.18 per centum, or almost 1 in 7.6. Excluding one whose sex is undescribed and the one of which there is no information, we have 25 males dead out of 166 cases, a mortality of 15.06 per centum, or 1 in 6.6, while we have 11 females dead out of 106, a mortality of 10.37 per centum, or 1 in 9.6. In the last report the general infantile mortality was 24 per centum (nearly), the male mortality 30 per centum (nearly), and the female mortality 15 per centum (nearly). The increased use of the forceps in such cases does not add any dangers to the mother or child.

Forceps were used at the brim 92 times: 6 mothers and 18 children died. Version was performed when the head was at the brim in 33 cases, 5 mothers and 29 children dying, thus showing that the forceps give a much better chance to both mother and child than version. A tabular statement of all the forceps cases is given in the report, as well as details of specially interesting cases.

Version was performed in 90 out of the 25,636 viable cases, equal to 0.35 per centum, or nearly 1 in 285. Podalic version was the method chosen in 80 cases, cephalic in 3, and in 7 cases the record is imperfect. The version was performed for malpresentation in 49 cases, in most of which some part of the upper extremity presented. Of these cases 29 children (20 males and 9 females) were stillborn, and 20 (9 males and 11 females) were saved. Placenta prævia, with its accompanying hæmorrhage, was the cause of interference in 26 cases, of which 23 (14 males and 9 females) were stillborn, and 3 (2 males and 1 female) were saved. Version was performed for

contracted pelvis in 14 cases, in most of which the conjugate diameter of the brim was chiefly or entirely at fault; in several the forceps were first tried in vain. Of the 14 cases, 11 (7 males and 4 females) were stillborn, and 3 (1 male and 2 females) were saved. In one case accidental hæmorrhage necessitated quick delivery, and version was performed. The child died. In 8 cases version followed by traction failed to deliver, and craniotomy of the after-coming head was necessary.

Of the 90 cases of version, 26 children (12 males and 14 females) were born alive, and 64 (41 males and 23 females) were stillborn. Excluding the 8 cases in which craniotomy was performed, there were 56 stillborn children in 82 cases of version—nearly 68.3 per centum, or 1 in 1.46. Of the mothers, 5, or 5.5 per centum, or 1 in 18, died; 4 were placenta prævia cases, and 1 was a case of contracted pelvis. Of the 5 deaths, puerperal septicæmia with peritonitis was the cause in 2 cases; puerperal septicæmia and hæmorrhage in 1 case; hæmorrhage in 1 case, and internal hæmorrhage (?) in 1 case. In all 5 cases the children were stillborn. Recently in placenta prævia cases, the forceps have been used instead of version, with greatly improved results to both mothers and children. In most cases the combined internal and external method, as described by Braxton Hicks, was adopted.

Craniotomy was performed 24 times, or 1 in 1,074, or in 0.09 per centum of the cases. In the last report the proportion was 1 in 1,310. In 7 of the 24 cases the children were dead before the operation was begun, in 15 cases life was a matter of doubt, and in but 2 cases was the child known to be alive. "At the same time, it must be remembered that in some cases the child's life was placed in fatal jeopardy by attempts at delivery prior to the use of the perforator." Four of the mothers died, one (two?) from rupture of the uterus, and two from suppurative peritonitis. The

causes that led to the craniotomies were: narrow pelvis 16 cases, hydrocephalus 2, large child, atresia vaginæ, and tedious labor 1 each, not stated 3. In 9 cases the forceps were tried in vain; in 6 cases the forceps and then version were tried in vain; and in 2 cases version alone was tried.

There were 5 cases of rupture of the uterus or vagina, or 1 in 5,098. All the patients died, including 2 in whom laparotomy was performed.

The number of cases of post-partum hæmorrhage is 342, or 1 in 74, or 1.3 per centum: 14 mothers died, and 38 children were stillborn. Of the 14 maternal deaths, 7 were from hæmorrhage alone, 4 from subsequent septicæmia, 1 from scarlet fever, 1 from erysipelas, and 1 from heart disease. In 14 cases the hæmorrhage was arrested by injecting into the uterus a solution of perchloride of iron (1 part of the strong solution to 3 or 8 parts of water); 13 of these cases recovered. In the majority of cases ergot was given, a teaspoonful of the powder or of the liquid extract, the hæmorrhage ceasing very soon, except in a few cases. The use of ice in the vagina was unsatisfactory. In 35 cases the placenta was retained, and had to be removed by introducing the hand into the uterus; in 30 of these the placenta was adherent, and detached in 5. In 6 cases the mothers died. In 31 of the 96 reported cases more or less pyrexia, with accompanying febrile symptoms, followed; in 10 cases there had been antepartum hæmorrhage; in 10 cases version had been performed; in 33 cases the forceps had been used.

Placenta prævia occurred in 51 cases, or 0.2 per centum. Of the cases, 14 were complete, 22 partial, and 15 doubtful or not stated. There was more or less hæmorrhage in 50 cases; 9 mothers died, or 17.6 per centum—nearly 1 in 6; 4 from hæmorrhage, 4 from septicæmia, and 1 from rupture of the uterus: 34 children were stillborn, or 66 per centum. In 2 cases

the patients died undelivered. Version was performed in 26 cases. "There can be no doubt that when a placenta prævia has been found, it is best to plug the cervix in order to stop further hæmorrhage. Barnes's bags answer well because they dilate the os at the same time. The case should be carefully watched, and a larger bag put in as soon as may be required. Then by rupturing the membranes, and, if necessary, separating the placenta from the lower zone, and delivering the child by forceps or version the risk of further loss of blood is diminished. If the vertex is presenting, the use of the forceps gives the child a better chance than version, but inasmuch as the labor is often premature, the ordinary forceps are apt to slip off."

There were 61 cases of puerperal fevers, or 1 in 418, or 0.24 per centum; 44 were fatal, making the mortality from this cause 1.7 in 1000. It is the rule to suspend an externe from his duties whenever one of his cases develops serious symptoms. In 1884, during the absence of the assistant obstetric physician, one of the externs was allowed to be a dresser in the surgery wards at the same time. No less than three of the women attended by him died of puerperal fever.

The principles of treatment are to remove any source of infection, wash out the uterus and vagina as necessary, and give a purge at the outset, with opium and hot fomentations. Quinine in 5 grain doses has been used as an antipyretic, and antiseptic measures are used.

In regard to maternal mortality, there were 86 deaths, or 3.4 per 1,000, or 1 in 296. In the last report the mortality was 4.4 per 1,000. Considering the poverty and destitution of most of the women, this further reduction of an already low mortality is very satisfactory.

this subject, read before the American Orthopædic Association at its annual meeting, September 18, 1888, Dr. A. B. JUDSON says: The treatment of Pott's disease is always open to amendment. I propose, therefore, in order to assist the practitioner, a simple rule, as follows: The efficiency of the apparatus used is to be measured by the condition of the skin covering the projection.

A few words in explanation will not be out of place. It is premised that the object of mechanical treatment is to make pressure on the projection with the threefold purpose of (1) enforcing fixation of the bones involved, (2) transferring pressure from the diseased bodies to the healthy processes, and (3) lessening the deformity. If we were dealing with the skeleton deprived of its integument there would practically be no limit to the pressure which might be applied to the projection. But the interposition between the apparatus and the vertebral column of the sensitive skin places a peremptory limit to the degree of force which it is possible to apply. The rule may therefore read: The apparatus may be considered as having reached the limit of its efficiency if it makes the greatest possible pressure on the projection compatible with the comfort and integrity of the skin.

This rule may be followed with perfect regard to the comfort and convenience and relief of the patient. If, contrary to common sense, the apparatus is fastened at once as tight as it can be borne, the skin will react speedily with pain and ulceration. But if the pressure is lightly applied at first, as may be conveniently done with apparatus constructed with this in view, and gradually and carefully increased from time to time, it will be found as the weeks and months go by that the skin has become indurated without losing its integrity or causing inconvenience, and its condition will be unimpeachable evidence that, so far as mechanical means go, the patient is

receiving a full measure of the benefit of treatment.

Through the negligence of the nurse or the willfulness of the patient, apparatus designed for use in this way may produce, and occasionally has produced, abrasion and ulceration. But this should not be considered a good reason for condemning the apparatus. It is well to bear in mind that the disease in question is perhaps the most insidious in its progress and disastrous in its results of all the affections to which the young skeleton is liable. Shall we not make use of the most efficient method at hand and, if necessary, redouble our carefulness and painstaking in order to avoid incidental excoriation?

There are methods of treatment to which the rule proposed does not apply very closely. I refer to those methods which have for their principal features suspension and plastic dressings. If the patient is suspended and plaster-of-paris applied, the pressure is diffused rather than concentrated, and changes in the skin are less marked and it is less easy to adjust the direction and degree of pressure on given points, while it is especially easy and convenient to do this with a brace constructed of tractable steel. I would not deery the use of plastic dressings in the treatment of this affection. They are daily affording comfort and relief to numbers of sufferers who would otherwise have nothing done for them. They will continue, perhaps, to be used by the general surgical practitioner. But I think the specialist in orthopædic practice can do better. He has a better method at his command in the use of tractable steel modified to meet the varying requirements of the case to which he devotes himself with the patience and ingenuity which are a part of his equipment.

To the practitioner of this class I commend the rule suggested above to the effect that the question of the efficiency of the apparatus is to be determined by the con-

dition of the skin covering the projection, a rule which many of us have doubtless followed in practice, and which it can do no harm to have expressed in words.

Cork as a Compress in Hæmorrhage.—

The surgeon frequently finds himself at a loss for a ready means of controlling certain hæmorrhages which, although seemingly insignificant at first, become quite serious in a very short time. This state of things is of course more likely to occur in the experience of the country surgeon than in that of his more fortunate city brother. In any event we are quite sure that the surgeon can find nothing so convenient and reliable for controlling hæmorrhages of the scalp, palmar arch, hands, feet, etc., and the oozing which often follows the too early or accidental removal of the remains of the umbilical cord, as the cork compress. The degree of resistance afforded by the cork is perhaps a little greater than that of one's finger, but the pressure secured by it is always uniform and reliable. The mode of its application is very simple. For scalp wounds a circular tap, about one quarter of an inch thick, is cut off the end of a cork about one inch in diameter, and secured to a bandage by a few drops of ordinary sealing wax. The section of cork thus prepared is placed over the bleeding vessel, and firmly secured by passing the bandage around the head in the usual manner as often as is necessary. For umbilical hæmorrhage the same description of cork and bandage is used, but the center of the cork is slightly scooped out for the accommodation of a small pledget of styptic cotton. By this means we have been able to control this very troublesome oozing when all other means known to us had failed. For wounds of the palmar arch the cork is cut in half, longitudinally, the flat surface secured to the bandage by a few drops of sealing wax, and the circular or rounded side pressed firmly along the course of the artery on the proximal

side of the wound. The bandage is then passed firmly around the wrist often enough to secure the desired amount of pressure upon the wounded vessel. In the same way the compress is applied in wounds of the hands and feet. Patients never complain of any discomfort from the pressure thus applied.

Our experience with this simple method of compression prompts us to recommend it as a safe and efficient means of controlling superficial hæmorrhages of every description where ligation is unnecessary, inconvenient, or not desired.—*International Journal of Surgery*, March, 1889.

Opening Deep Peri-Rectal Abscesses by Perineal Incision.—H. ZELLER (*Beiträge zur klinische Chirurgie*, Bd. iii., Hft. 2), referring to the abscesses above the pelvic diaphragm, states that these are usually found in the prostatic and peri-prostatic connective tissues. Abscess of the prostate itself is most frequently the result of irritation in the urethra; rarely by propagation of an ulceration from the rectum. Abscesses occurring primarily in the peri-prostatic connective tissue, and involving the prostate secondarily arise from extension of inflammation, or infection from neighboring organs. Further, ulceration of the bowel high up (stercoraceous abscess) may produce abscess in this locality. Abscesses originating in the vertebræ seldom find their way to this locality. Lastly, a series of cases is mentioned, in which the cause is not noted.

Rupture of an abscess purely prostatic in its origin occurs oftenest in the urethra, and at times is characterized by an intermittent discharge of pus; it very seldom breaks through into the bladder. Abscess of the peri-prostatic tissues open oftenest into the rectum; next in frequency into the urethra, and often into both rectum and urethra. They seldom point spontaneously towards the perineum, and are quite as likely to follow a direction towards the in-

guinal region, the ischio-rectal fossa, or the obturator foramen.

The prognosis of deep perineal abscesses is unfavorable. In 114 cases, 70 were cured, 7 terminated in fistulæ, while 34 died. The importance of early interference is insisted upon. The perineal incision recommended by Lallemand, even when no prominence in the perineum is observed, and when but slight arching toward the rectum can be felt, is recommended.

When decided bulging and fluctuation are observed in the rectum, there is a temptation to incise at this point. The fact that the rectal opening cannot be made sufficiently large for purposes of free drainage; that it is often not at the most dependent portion of the abscess; and further, the impossibility of antiseptics, and the risk of establishing a urethro-rectal abscess in the cases in which spontaneous opening into the urethra also occur;—these considerations together with the danger of hæmorrhage, will impel the surgeon to adopt the course recommended by the author.

Tuberculosis of the Sacro-Iliac Joint.—DR. WELLER VAN HOOK, in a paper on this subject, draws the following conclusions in regard to treatment:

1. Sacro-iliac disease is not directly amenable to treatment by drugs. They should, nevertheless, be employed by the surgeon in all forms of the disease when they are likely to improve the general condition of the patient.

2. Counter-irritation is indicated when there is pain, lameness or tumefaction at the joint without abscess formation. The actual cautery seems to be the most effective form.

3. Mechanical rest, which is here also physiological rest, is the treatment par excellence where no abscesses are present.

4. When abscesses have formed radical operative interference must be immediately resorted to.

5. If the abscesses are extra-pelvic they

should be operated upon by direct incision and évidemment.

6. When the abscesses are intra-pelvic the operator should approach the disease focus, supposedly in the anterior of the joint, by an opening made above the joint proper as described.

7. When both extra- and intra-pelvic abscesses are present the external abscess should be first opened, and the opening between the two, if possible, so enlarged as to admit of the radical treatment of the deeper focus of disease.

8. Radical operations cannot be made through long sinuses.

9. Drainage alone is not likely to be successful.

10. After-treatment should include besides antiseptics, continual rest, aided when necessary by the extension and pelvic belt.

11. When radical operation is undertaken no tubercular matter should be left behind.—*Annals of Surgery*, Feb., 1889.

Benzoated Chloroform.—DR. B. W. RICHARDSON recommends the use of benzoated chloroform as an antiseptic of considerable service in the treatment of fœtid wounds. It is made by dissolving three drachms of pure benzoic acid in twelve ounces of chloroform and filtering if necessary. In a case of fœtid ulcer of the lower extremities, after the bandage has been applied, he prescribes a fluid drachm of the solution poured over or near the ulcer, the deodorizing effect being of the best character. He states that the solution is also the most effective that he knows of for removing the fœtor in troublesome cases of fœtid exhalations of the feet. Used like eau de cologne, he finds it advantageous to rub over the hands at a post-mortem examination, and for similar purposes where a disinfectant is required.—*Asclepiad*, Vol. v., No. 19.

Crude Sulpho-Carbolic Acid as a Means of Disinfection.—E. LAPLACE (*Deutsche Med. Wochenschrift*, 1888, No. 7), following up

his experiments which resulted in considerably increasing the antiseptic power of sublimate by the addition of acids, sought to obtain similar effects in carbolic acid. Realizing that the comparatively insoluble 25 per cent. crude carbolic acid is not available for disinfectant purposes, he added to the latter equal parts of crude sulphuric acid, heating the mixture and allowing it to cool. The result is a thick, black fluid, very easily soluble in water, which possesses undoubted antiseptic powers. For instance, it destroys the spores of anthrax, in a 4 per cent. solution, in forty-eight hours; a 2 per cent. solution will accomplish the same result in seventy-two hours. This is about equivalent to the performances of a 2 per cent. solution of pure carbolic acid. It would seem, therefore, that the principal advantage of this compound resides in its comparative cheapness.

Radical Cure of Hypertrophy of the Prostate.—Simultaneously with Casper, DR. ROUX, of Lausanne, employed the galvanic current in the treatment of hypertrophy of the prostate. He has used the method in six cases and claims to have obtained even better results than Casper. His procedure is as follows: A broad electrode is applied to the abdomen. The other, which consists of long needles varnished to within 12 to 15 millimeters of the point, is introduced into the prostate through the rectum. At the beginning of the application a weak current is employed, but in one to three minutes this is gradually increased, until the desired maximum is reached. Roux uses currents up to 70 milliamperes, which are applied for 2½ to 5 minutes in this strength, and then gradually diminished, while the needles are withdrawn and inserted into another part of the prostate. No especial disinfection is required, since Roux regards the galvanic current itself as a sufficient disinfectant.—*Deutsche Medizinische Zeitung*, No. 97, 1888.

Beta-Naphthol in Typhoid Fever.—MR. J. MICHELL CLARKE, in an article on this subject, draws the following conclusions:

1. That the production of intestinal antiseptics is a rational mode of treatment of enteric fever, and that beta-naphthol is a safe and tolerably efficient agent for this end.

2. That the duration of the disease was shortened in the cases in which he used the drug, and the intensity of the symptoms directly arising from profound disturbance in the alimentary canal was lessened.

3. That the tendency to the occurrence of splenic enlargement, albuminuria, and of secondary complications, such as boils, abscesses, etc., of purulent infective origin, is diminished.

4. That complete convalescence is more speedily and satisfactorily attained, and that there is less risk of a propagation of the disease to others.

In some patients, however, naphthol may cause so much gastric disturbance as to prevent its use.—*The Practitioner*, December, 1888.

Action of Inhalations of Ethylene Chloride on the Eye—M. PANAS, after a study of this subject, believes, contrary to the opinion of M. Raphael Dubois: 1. That the corneal trouble caused by inhalations of ethylene chloride are due to a serous infiltration of the corneal parenchyma. 2. That the mechanism of œdema of the corneal tissue depends on the destruction, by the ethylene chloride, of the corneal endothelium, which only protects the cornea against the invasion of the aqueous humor. Panas adds that he has never seen glaucoma after inhalations of chloride of ethylene.—*Progrès Médical*, No. 50, 1888.

Treatment of Serpiginous Ulcers of the Cornea.—In the treatment of serpiginous ulcers of the cornea, DR. DEHENNE advises the following course: (1) Open the lachrymal ducts and irrigate the passages with

an antiseptic solution (boric acid 4:100). (2) Wash out the conjunctival *cul-de-sac* with sublimate solution, 1:2000. (3) Cauterize the surface of the corneal ulcer by the aid of a fine pointed thermo-cautery at a white heat. (4) If there is pus in the anterior chamber, perforate the cornea with the same point and evacuate the pus. (5) Instil five or six drops of neutral sulphate of eserine solution (1:200) four times daily. —*Union Médical*, January 1, 1889.

Iso-Nitroso-Antipyrin.—So much has been said lately about the toxic action of mixtures of antipyrin in sweet spirits of nitre, that two observers, Dr. H. C. Wood,¹ of Philadelphia, Pa., and Dr. G. Evans,¹ of Aberdeen, Miss., have made some experiments in this direction, and both claim that ordinary amounts of the mixture are perfectly harmless. The latter observer gave doses of the mixture to animals and man, and found the only effect was that of the antipyrin remaining unchanged. The former experimenter used the isolated product, the iso-nitroso-antipyrin, and found it inert. He says that a very small and harmless amount of cyanogen develops if the mixture stands for some time, particularly on addition of an acid.

Cannabin in Graves' Disease.—Valieri, after using cannabin in three cases of exophthalmic goitre, recommends the following formulas:—

	Cannabin.....	gr. iv ss
	Sugar of milk, q. s.....	Mix.
	Make 5 pills.	
S.	To be taken in 24 hours.	
	Cannabin.....	gr. iv ss
	Distilled water.....	℥ ii j
	Syrup of orange flowers.....	℥ j
S.	Take in teaspoonful doses in 24 hours.....	Mix.

Or we may prescribe a decoction of 2 or 4 100th parts, or doses of ℥ 15 or 30 of the tincture.—*Wiener med. Presse*, No. 41, 1888.

¹ Therapeutic Gazette, Feb. 15, 1889.

EDITORIAL.

THE TREATMENT OF DIABETES.

One of the most notable and valuable papers that has been presented to the Chicago Medical Society for some time, was one on "The Treatment of Glycosuria," by DR. CHARLES W. PURDY. Beginning with the usual classification of diabetes under the two forms, of the milder manifestation of the disease, in which only small amounts of sugar appear in the urine, while the patient's health suffers little or no disturbance, and the more severe type, characterized by excessively saccharine urine, great thirst, polyuria, etc., leading more or less rapidly to extreme emaciation and death, Dr. Purdy goes on to point out some of the facts in regard to the glycogenic function of the liver, as taught by physiological chemistry.

The basis of the treatment of diabetes, in the opinion of Dr. Purdy, as well as of Dr. Pavy and other therapeutists, is diet. The foods that can be transformed into sugar must be prohibited. The hydrocarbons are of course the chief sugar-forming foods, and the more completely we can eliminate them from the food-supply in diabetes, the more completely will we be able to bring and hold the disease under control. First in importance is the question of bread. In regard to the so-called diabetic flours, breads, and cakes, Dr. Purdy does not hesitate to say that all these preparations now on the market are loaded with starch; are "a delusion and a snare." "Most samples of gluten flour," he says, "from which the starch is claimed to have been eliminated—or nearly so—contain from 20 to 40 per cent. of starch. I saw in Dr. Pavy's laboratory in London a few months since an analysis of one of the so-called diabetic flours on sale in our markets, which showed the starch contents to be nearly 60 per cent. Long before I became aware of these facts I found that I could not control typical cases of diabetes

if I permitted the use of commercial flours so-called 'diabetic.' I need scarcely add that with the above figures before me I have discarded them altogether.

"The withdrawal of bread from the diet usually constitutes the most serious deprivation the diabetic patient has to encounter, although the appetite for bread is more largely a matter of taste and habit than of necessity. Some patients become quite reconciled to the change after a few weeks, and do not mind it, but usually the craving for bread of some kind remains more or less strong, and will not be supplanted by the use of other foods. In the latter class of cases, if strict dieting be demanded, I permit the moderate use of bread made from almond flour as first practiced, I believe, by Dr. Pavy. The almond is absolutely free from starch, but contains about 6 per cent. of sugar. The latter may be eliminated by boiling the meal in acidulated water for an hour or so and then straining it. The almond meal is not on sale in the markets; the large percentage of its contained oil (50 per cent.) renders it unfit for keeping sufficiently long for commercial purposes. In my own practice I direct the meal to be made as required by means of mills especially constructed for the purpose. Almond flour, when beaten up with eggs, may be raised with the aid of a little baking powder, and baked in small tins in an oven, and the resulting bread is relished by most of my patients as equally palatable with ordinary bread. It should be borne in mind that almond bread, as indeed all substitutes for common bread, should be used in moderation; otherwise patients deprived of other luxuries of food fly to the permitted bread with an avidity seemingly born of the thought that it is indeed the 'staff of life' instead of merely a substitute therefor. To make a substituted article of diet go further than the original one is more than is to be expected, even in these practical days, and yet I am led to believe that the failure in

accomplishing this in the case of almond bread has led to its unjust condemnation by some in these cases."

Next in importance to the question of bread is that of the use of milk in diabetes. Dr. Purdy, after extensive trials of this article, has come to the conclusion that milk is successful chiefly, perhaps only, in milder forms of diabetes, of reflex origin. Such cases are controllable by moderate limitations of diet. In the more severe types of the disease Dr. Purdy has found that when the diet was rigidly restricted, save in the use of milk, the total exclusion of this article, without other change, caused a prompt reduction in the amount of sugar excreted, and often its total disappearance.

"Milk contains a very considerable amount of sugar (lactine), about half an ounce to each pint, and Dr. Pavy observes that this animal hydrocarbon 'comports itself in the intestinal canal precisely as does grape-sugar.' There can be little doubt, therefore, that in the more pronounced type of diabetes requiring a strict diet, milk should be excluded from the list. There is a form of glycosuria that occurs in obese and over-nourished subjects, in which the amount of sugar in the urine is usually small, and probably largely due to the ingestion of more hydrocarbons than the system is able to appropriate. Such cases are benefited, and indeed often cured, by a course of fasting. The 'milk cure' consisting of the exclusive use of skimmed milk is likely to benefit such cases because it is, in fact, a system of starving. Skimmed milk alone is not sufficient to long maintain proper nourishment to the system. In pronounced diabetes of central origin, where the assimilative powers of the system are weakened, and more or less emaciation has already set in, it would, therefore, seem absolute folly to confine the patient to skimmed milk, for under such circumstances death from inanition must be but a question of a short time. It is important to bear in mind that lactine is

confined to the whey, and consequently the other derivatives of milk—as cheese, cream, curds and butter—are unobjectionable."

After reviewing the food-products applicable in diabetes, Dr. Purdy gives the following *strict diabetic diet*, as appropriate in the more severe type of true diabetes of central origin:

"Meats of all kinds except livers; beef roasted, broiled, dried, smoked, cured, potted, or preserved in any way except with honey, sugar, or prohibited vegetables. Mutton, ham, tongue, bacon, sausages. Poultry and game of all kinds. Soups made from meats, without flour or prohibited vegetables. Eggs, butter, cheese, pure cream, curds, oil, gelatine and unsweetened jellies. Fish of all kinds except oysters and the inner parts of crabs and lobsters. Bread, biscuits, and cakes made from almond flour. Spinach, lettuce, olives, cucumbers, mushrooms, water-cresses, green cabbage. Almonds, walnuts, Brazil nuts, filberts, butternuts, cocoanuts. Salt. vinegar and pepper.

"*Drinks*, tea and coffee, mineral waters, whisky, gin and brandy, in moderation. Claret and Rhine wine.

"In mild forms of glycosuria some additions may be safely made to the above diet, and often with advantage. Since in such cases the sugar-forming powers of the organism are weaker: or, in other words, the assimilative powers for sugar and starch are greater, it is only necessary to limit, *not to curtail* the hydrocarbons. It seems necessary, therefore, to have at hand to draw upon a supplementary list of foods, which contain but limited amounts of these agents. The selection from the supplementary list should always be made with care: indeed, it should be almost as much a matter of experiment as rule, since we encounter wide differences in individual cases. Thus levulose—fruit sugar—is often well assimilated in the milder form of the disease, and this permits the inclu-

sion of certain fruits in the supplementary list."

Following is the *supplementary diet*: "Cabbage, celery, radishes, cauliflower, green string beans, coldslaw, kraut, young onions, tomatoes, cranberries, apples if not sweet, milk in moderate quantities, and bran bread or gluten bread well toasted."

Saccharine should be used as a sweetening agent; it is entirely harmless.

Scarcely less important than the diet itself is the method of dieting. When the patient is placed upon diet, medicines should be excluded until the sugar excretion is reduced as much as possible by diet alone. The more objectionable foods should be cut off step by step, until sugar ceases to appear in the urine, or until an almost or absolutely exclusive animal diet is reached. The method of dieting, and the various steps, given by Dr. Purdy cannot be even outlined in the space at our command: the subject is so important that his whole article, which appears in the *Journal of the American Medical Association* of March 30, should be carefully read.

In regard to drugs, it may be said that there is very little evidence in favor of any one being entitled to confidence; they are probably nearly inert, so far as their influence over diabetes is concerned, when their effects are carefully discriminated from those produced by dieting. The legitimate field of drugs in diabetes is practically narrowed down to the treatment of its accompanying symptoms, such as disordered digestion, constipation, nervous troubles, etc.

WATER-SUPPLY AND STREAM-POLLUTION IN ILLINOIS.

The Secretary of the Illinois State Board of Health has recently issued a preliminary report on the "Water Supplies of Illinois and the Pollution of its Streams." This investigation and study were among the earliest efforts of the State Board of Health, though they were at first necessarily con-

fined to pressing emergencies. Within the past twelve months the work has been pushed with great vigor and on a broad scale, the chemical work being done by Professor John H. Long, and the engineering work and estimates by Mr. L. E. Cooley, whose report on "The Illinois River Basin in Its Relation to Sanitary Engineering" is both interesting and exhaustive.

The work of the Board in this connection is by no means purely local, nor is it confined to the valley of the Illinois river; it covers already 3,500 miles of water-courses—all the streams in the State except the Rock river in the northern, and the tributaries of the Wabash and Ohio, and of the Mississippi below East St. Louis, as well as the water-supplies of all the State Institutions, and of the majority of the important cities and towns. The data secured embrace over 1,000 chemical analyses of various waters under different conditions, the meteorological conditions for a series of years, the physical conditions relating to questions of sanitary engineering, and other factors of the very complicated problem. No such work on so large a scale has been attempted before in this country.

Of the many important fields of work that must be covered by an efficient board of health, none is more important than those of water-supply and drainage. In this preliminary report are discussed the general physical characteristics of the Illinois and Lake Michigan basins, with the general effect of inhabitation, and a part of the principal tributary basins; also a partial report of the distribution and changes in population in the two basins. Great as is the amount of work shown in the report, still the report is but preliminary.

The effects of inhabitation have already been shown on many of the water-courses of the State, and it is certain that the next half-century will bring about the most radical alteration in the flow of the streams.

If left to themselves these streams will ultimately convert no inconsiderable part of the State into marshes. Some of the streams will run dry at certain seasons of the year, while at other seasons the floods will be increased. A considerable proportion of these effects will occur within a few years as the result of wholesale reclamation projects. They will be accompanied by an enormous increase in the amount of detritus, which will not keep up indefinitely in the future, but will be at all times multiplied over past conditions, owing to the increased tillage, and the more complete ditching of the lands. "The ultimate effect of the changed conditions in the lower valley of the Illinois will be to convert it into a continuous marsh, without well-defined drainage-lines other than a chain of sloughs, except, perhaps, at the lower end, gradually filling up its bottoms until in ages of time it may probably become adjusted to its new labors. It is doubtful if man can counteract these tendencies or more than postpone their consummation without a radical change in conditions." It must be the work of art to change these conditions.

The question of the dilution and disposal of Chicago sewage is one of great interest to a large portion of the State. More study will be required to determine with accuracy the limit necessary for the effective dilution of sewage, but from what is now known it may be safely said that the limit is within the practical means of accomplishment. This matter is intimately connected with that of distribution of population. The urban population of Chicago is about equal to that of the remainder of the State, double that on the Illinois river watershed, and many times that of the Illinois valley. These are facts of the greatest importance in considering the necessities of Chicago. And certainly, if the solution of the sanitary necessities of one of the largest and most important cities of the country can be made of benefit to

many other important communities, and of vast importance to the commercial, economic, and sanitary interests of a large portion of Illinois, there can be no question as to a wise State policy on the subject. And in this connection it may be remarked that it is an unfortunate characteristic of American legislative bodies to do things in too much haste, and without due consideration of the whole matter. Thus, plans are entered into, and hundreds of thousands of dollars spent in projects that have been tried and found to be failures in the old world. Hundreds of thousands of dollars, and a great deal of valuable time, could be saved by sending commissioners to Europe to study the sanitary methods and systems of such countries as England, Germany and France.

It is impossible in any ordinary amount of space to give even an analysis of the preliminary report, on account of its very condensed nature. We can say, however, that the work thus far completed is of paramount importance, and is a severe criticism of the recent action of the lower House of the Illinois Legislature in refusing to make appropriations for the State Board of Health. For the work that has been done great credit is due the Secretary of the Board, to Professor Long, and to Engineer Cooley. To complete this most important work the Board must have funds, and for the sake of the health of the people of the State it is to be hoped that the Board will not be hampered in this matter by unwise legislation.

THIERSCH'S METHOD OF SKIN GRAFTING.

E. PLESSING, of Leipzig, has contributed an interesting paper on this subject to the *Archiv für klinische Chirurgie*, Bd. 37, Hft. 1. Thiersch, it will be remembered, says that the healing of a granulating surface depends on two factors: *First*, in the changing of the soft, succulent blood-carrying granulation into the bloodless, dry, cicatricial papillæ, a result that causes a

diminution of the surface and the drawing together of the adjacent parts. *Secondly*, a covering over of the contracted papillæ with epidermic cells. These factors, the contraction of the wound and the growth of the pellicle, occur together, within certain limits; and when these limits are reached the granulating surface becomes stationary and inactive.

It is the upper stratum of granulation tissue that causes the shrinking after ordinary skin grafting, and also the insecurity of the result. Thiersch removes this upper layer, and Maas says that it is necessary both to freshen up at the edges of the ulcer, and especially to remove the upper layer thoroughly, and to expose completely the lower one with its horizontal capillaries; between this lower layer and the transplanted flap thorough adhesion will take place, never to be disturbed by cicatricial contraction.

The method followed in the Leipzig Clinic is thus described by Plessing: The part from which the skin is taken is completely disinfected; any disinfectant may be used, but during the course of the operation a 6 to 1000 sterilized salt solution is used. All the soft granulations are then scraped away from the granulating wounds with a sharp spoon, the bleeding surface irrigated with the salt solution, sponged, covered with protective and compressed for five or ten minutes until bleeding ceases. The best results are obtained when the granulations are about six weeks old, and after their growth has been limited by repeated cauterizing and compression.

The wound being thoroughly prepared, the skin-grafting is begun. The skin of the arm and thigh is most often used. The skin must be free from fat, and well stretched by the left hand, the right hand carrying a razor with a long, wide, concave blade, held flat, and drawn slowly with a sawing motion through the upper layers of the skin; all this time the blade must be kept moist with the salt solution. The

grafts are transferred immediately from the knife to the prepared surface; the blade is laid on the wound, and the edge of the graft is drawn over on to the wound by means of a probe; as the blade is withdrawn the graft easily slips into place. Any wrong position of the graft may be corrected by means of the probe or a small brush. When necessary the flap may be shortened. The whole area of the wound must be covered with strips of skin, which should overlay the edges of the wound, and come together as close as possible, even to the extent of slightly overlapping one another. The skin is now gently pressed in place with a spatula.

The dressing should protect the grafts, and maintain them in position. Better results are obtained by using a moist dressing, changed daily. The vicinity of the wound is smeared with oil to prevent the dressing sticking. The grafts are covered with a strip of protective, soaked in salt solution. Over this is placed a pad of cotton, moistened with salt water; this is covered by a large piece of protective. Over this is another pad, of dry cotton, and the whole is held in place by a cotton bandage, over which a dextrine bandage is applied to prevent slipping. If a dry dressing is to be used, an iodoform dressing is the best. The places from which the skin has been removed are covered with iodoform dust, a dry dressing is applied, and left for a week or two.

Within the first few days the grafts may undergo the following changes: If they are of a pinkish color success is tolerably sure. If they are white they will drop off in a few days. Blood under a graft gives it a bluish color, and endangers the healing process, but does not always lead to supuration. In order to prevent the entrance of bacteria into the wound, which prevent healing, the dressing should be changed every day during the first week, and the surface irrigated with sterilized salt water.

When the wounded surface is not cov-

ered with grafts a fibrinous exudation appears on the free borders, and the grafts begin to separate. The healed grafts become detached, or small epidermal blisters filled with pus appear on the healed spots, and form ulcers that gradually enlarge. The superimposed skin may be broken through from below by granulations, and disappears, temporarily at least, but when the granulations recede later, epidermal islets are again seen. Syphilis may prevent the healing of the grafts.

Plessing gives a series of 40 cases in which transplantation was done 78 times; 17 times on fresh surfaces, and 61 times on scraped granulating surfaces. In 58 cases there was perfect healing, in 12 cases it was incomplete, and in 8 it was a total failure, and the grafting was repeated. The results are better on scraped granulation surfaces than on loose or connective tissue (fascia, periosteum); glandular and muscular tissues give good results. Spongy bone tissue and exposed tendons do not give permanent results. Grafts do not adhere to compact bone.

Plessing lays stress on the following points: Careful disinfection of the hands and instruments, newly prepared sterilized 6 to 1000 salt solution, proper time of operation, thorough hæmostasis, complete covering of the wound with grafts, immobilization of the part, careful bandaging, and daily changes of dressing, with thorough irrigation.

THE EFFECTS OF TIGHT-LACING.

DR. BORIS I KIANOVSKY records, in some recent numbers of *Wratch*, a series of experiments that he has carried out with the view of determining the effect of tight-lacing on vital capacity, the movements of the thorax, the energy of inspiration and expiration, arterial tension, pulse, and respiration. The experiments were conducted on thirty female patients between the ages of 18 and 44 years, twenty-eight of whom

were tight-lacers. His results may be summarized as follows:

1. The corset lessens the respiratory movement of the thorax, and diminishes both the vital capacity and the force of the inspirations and expirations, the inspiratory movements being particularly affected.

2. Since the corset compresses the thorax and diminishes the amount of the inspired air, it necessarily gives rise to chronic "oxygen starvation," which is one of the chief causes of dyspnoea and cardiac palpitation during brisk walking (fatigue being noticed early on physical or mental exertion), anorexia, faintness, vertigo, and other like symptoms usually noticed by tight-lacers.

3. A tight corset causes a fall of arterial tension, which in tight-lacers is usually below the normal (consequent upon arterial anæmia).

4. The effect of the corset on the frequency of the pulse was shown by the following experiment: The women were made to run 980 feet, with moderate swiftness, without corsets or lacing. The pulse was 136, 140, and 156, and the respiration 32 a minute. When the same women ran the distance tight-laced the pulse was 144, 160, and 176, and the respiration 48, 60, and 64.

Among thirty-eight corset-wearers, movable kidney was found in eight, habitual constipation or gastro-intestinal catarrh in fourteen, disease of the apex of the lungs in six, anæmia in five, hysteria in five.

The author says in conclusion: "I cannot help saying that I look upon the work of my predecessors and upon my own humble contribution with a sense of bitter and painful regret, for I am conscious that all the labor directed towards showing the evil effects of tight-lacing must yet remain unnoticed, or neglected, by women for a very long time." Nevertheless, such work is in the direction of desired dress reform, and if persisted in must in time produce some result.

SOCIETY REPORTS.

ALLEGHENY COUNTY MEDICAL SOCIETY.

*Special Meeting. February 19th, 1889.*W. F. KNOX, M.D., PRESIDENT.
IN THE CHAIR.DR. LINCOLN reported a case of
FEVER FOLLOWING CONFINEMENT.

Upon the ninth day, after a tedious but otherwise normal, instrumental delivery, resulting in a slight perineal laceration, I was called to see the patient, a slight woman, and found her with a temperature of 103.8°, and back and hip ache. Pain and temperature elevation disappeared during the following three days, but both with a pulse of 140 returned on the sixth day. The fever now assumed an irregularly intermittent type, and now, 20 days from its beginning, convalescence is present. The labor was conducted with antiseptic precautions. Her treatment was intra-uterine bichloride injections, quinine and morphine for pain and sleep.

DR. SAMUEL AYRES read a paper on
PARACENTESIS IN INTERNAL HYDROCEPHALUS.

The history of the boy, who is present this evening, is as follows: His age is nearly five years, his height is 3 feet 1½ inches, and weight 43 pounds. There seems to be no history of the neuroses in his family. His father's mother died of cancer of the breast, and an aunt of his mother of phthisis. His mother and father have always enjoyed the best of health, the latter being a laborer. He denies any venereal infection.

The mother states that her boy was perfectly healthy and normally developed up to three months of age, when, without known cause, he was suddenly seized with convulsions during sleep. These attacks became very frequent, occasionally from twenty to thirty occurring daily, and they continued for nine months, or until he was one year old. They then ceased, and have not recurred. Three months after their com-

mencement his head had naturally enlarged and assumed a pear shape, the greater diameters corresponding with the biparietal parieto-occipital planes. There was no separation of the cranial bones. From the date of the beginning of his trouble up to the time that he was brought to my clinic, in October, 1888, every form of treatment had been faithfully tried, according to his parents, but without the least success. At that time his condition was this: Mentally, there had been little or no development. He was obviously imbecile. He could not talk, but smiled idiotically. He was totally blind, but the other special senses were not apparently affected. He had never walked or stood alone, but could easily move his body and extremities. The bowel and bladder sphincters were not controlled. He was extremely irritable and restless, and slept very irregularly. He would take only liquid food given from a spoon. He was fairly developed physically and quite well nourished, but always of an ashy pallor. There was a very frequent rotary movement of the head, with slight retraction, and grinding of the teeth. His pulse was from 120 to 140 per minute. Temperature was not taken. The measurements of the head were the following: From the gabella to inion, 12½ inches; over the bi-auricular line, 13¾ inches; around the fronto-occipital line, 20 inches. The anterior fontanelle closed when he was eighteen months old, and the sutures had ossified at the usual time. No abnormal sensory symptoms were noticed. We could not succeed in making an examination of the eyes owing to his restless state.

A diagnosis of ventricular effusion was ventured. His parents suggested and urged some kind of an operation as a *dernier resort*, as they fancied something might be done surgically. To this I very reluctantly consented, having distinctly pointed out the dangers and uncertainties incident to such procedure.

On the 4th of December, 1888, assisted

by Drs. Murdoch, Hersman and Boreland, and in the presence of the students of the Western Pennsylvania Medical College, the following course was pursued: The head having been shaved, washed with strong soap, and enveloped in carbolized cotton for twenty-four hours, the boy was chloroformed. Over the coronal suture, about one and one-half inches to the right of the median line, a small flap of the scalp and pericranium was reflected. With a trephine about one cm. in diameter, I removed a button of bone, which was slightly thicker than normal. The dura looked healthy, but owing to its small exposure the tension could not well be estimated. It distinctly pulsated. A very delicate trocar was passed through the dural membrane into the brain substance, downwards, backwards and inwards, to the depth of two and one-half inches, the object being to pierce the central cavity of the right lateral ventricle.

There were no reflex movements of any kind observed during this procedure. The trocar being removed, a clear, limpid fluid began to ooze, drop by drop, from the canula. About an ounce of this was evacuated, when the canula was slowly withdrawn. As its internal orifice reached the sub-dural space, the same transparent fluid dropped from the opposite end, thus revealing the presence of perhaps an excess of fluid in this space also.

Its specific gravity was not obtained, but it was faintly alkaline, non-albuminous, contained chlorides in abundance, and also phosphates. Evidently it closely resembled the cerebro-spinal fluid.

The pericranium and scalp were approximated and stitched, and the wound dressed with carbolized gauze. For several days the same fluid continued to ooze from the puncture in the dura, and to saturate the dressings. It was estimated that from four to eight ounces was thus discharged.

The case progressed satisfactorily, the pulse not exceeding 140, nor the temperature rising above $101\frac{8}{10}^{\circ}$. The child

seemed anxious to be up in two or three days, and could then stand alone. The results of the operation were quickly observed in a partial restoration of sight. The boy could evidently see, as he would wink when a finger was passed before his eyes. Then, having stood unassisted, he was gradually able to walk alone across the room, which he did in about three weeks. He became less irritable, and instead of short snatches of sleep, as before, slept the entire night. He also took some solid food, which he had not done previously. For three weeks following the tapping he did not rotate the head a single time.

The mother states that, in a great many respects, the child is improved. He is more attentive, and seems to better understand her. There is, however, no development of speech, nor are the sphincters under any better control.

He continued in this improved state till the latter part of January last, when, after some slight ailment, he gradually lost the power to walk. Thinking that the fluid was reaccumulating, we proposed tapping him again on the 8th of February, but on the 5th he commenced to walk again, so it was postponed.

It is my opinion that more fluid will have to be evacuated, as he is not quite so active now as some time after the tapping. I am fortunate in being able to report an ophthalmoscopic examination of his eyes, which was very kindly made to-day by Dr. Lip-pincott, while the boy was anæsthetized for the purpose.

"Right eye. Disc snow white, and with sharply defined margins. Capillary circulation greatly diminished. Retinal vessels, especially veins, reduced in calibre. Arteries not very much below normal size. Retina also atropic. Media clear.

"Left eye. Same condition as right, except that the disc margins are even more sharply defined and a small quantity of pigment is seen surrounding the disc.

"Divergent strabismus of O. S. Pupils normally react."

The most practical bearing this operation would seem to have is in reference to those imbecile children, the commencement of whose trouble dates back to some acute or subacute cerebral affection, as simple meningitis or convulsions, or perhaps slight traumatism, but whose cases have always been considered irremediable. It seems probable that many such cases go to fill the institutions for feeble-minded throughout our land, or else prove, in their own homes, a grave care and an eternal responsibility to parents. And the question may be pertinently asked whether an excessive or a pathological effusion within the cerebral ventricles or sub-dural space, or within both, may not only have caused, but perpetuated, these undeveloped brains and minds.

The presence of such excess of fluid is abundantly adequate to produce the symptoms by pressure upon the delicate nerve elements or tracts, and the varying character of the attacks, as in this case, would strengthen the probability that a fluid, changing with the body position or blood-pressure, was the responsible agent in their production. Or, during the sub-acute stage, when convulsions, coma, paralysis, or other grave symptoms follow an obscure brain attack, consisting, perhaps, in ventricular inflammation, and when death is imminent, it seems to me not only justifiable but imperative, that the sub-dural space be tapped, and if the symptoms do not soon abate, that the lateral ventricles be penetrated. If the product of such inflammation should prove to be purulent, which is not probable, the opening in either case would have to be enlarged and thorough drainage, with antiseptic irrigation, established.

But since most of these sub-acute cases of sub-dural or ventricular meningitis are attended only with fluid effusion, the operation would be comparatively easy, particularly if the fontanelles had not ossified. I

shall never again stand by, even after exhausting all other resources, and allow convulsions or coma or paralyzed respiratory centers to carry off an infant, with all the symptoms of ventricular effusion, without resorting to paracentesis, unless a tuberculous history makes certain its fate.

In the performance of the operation great care should be exercised. The chief difficulty lies in our inability to determine which cavity to evacuate. For instance, if the fluid resides in both cavities, and the normal openings between them, through the foramen of Majendie, and those behind the roots of the glosso-pharyngeal nerves be closed by inflammatory exudation, or the presence of a tumor, then to tap only the sub-dural space would remove the external pressure, and allow such an expansion of the internal fluid as would perhaps lacerate the brain tissue. Or the same effect might be produced by evacuating only the ventricular fluid. This may have been the cause of death in some of the reported cases.

It would seem, therefore, that the safest course to pursue would be that followed in the above, particularly when the cranial sutures are closed--to tap first the ventricles and then the external space.

The operation of tapping for hydrocephalus is not new. It is thought Le Cat first performed it in 1744. West (3d *Am. Ed.*, p. 117) refers to the operation, but states that opinion is divided as to the propriety of the practice. He had up to that time collected 56 reported cases from different sources, with 4 recoveries, but he does not state whether they are of the external or internal form; though the inference is that they were of the former, since compression after operation is referred to.

Watson (p. 291 *et seq.*) gives several cases of the external form, for which tapping was practiced, with variable results, some dying, some recovering, but he speaks of no cures.

Ellis (3d *Ed.*, p. 83) says that punctur-

ing is not applicable to the ventricular form, and he rather discourages its employment in the external. He quotes Churchill, who gives a list of unsuccessful cases. But Ellis admits that the operation has been occasionally successful.

In the *Cyclopædia of Practical Medicine* (vol. II, p. 500) Folis is quoted as giving the names of 27 writers who had expressed themselves in favor of the operation. Yet he himself with Boerhaave, Dupuytren, Heister, Hecker and Portenschlag, regarded it as cruel and useless.

George B. Wood (2d Ed., vol. II, p. 353) says that tapping has been employed by many with uncertain results.

Elliotson (2d Ed., p. 511) states that he never saw a case of the kind, but that if a minute puncture be made and a small quantity of fluid be evacuated at a time, it might be done with safety and with prospects of relief.

Reynolds (*System of Med.*, vol. I, p. 840) quotes Watson, West and Conquest on the subject, the last of whom he states has been the greatest advocate of the operation in this country (England).

Condie (2d Ed., p. 400) refers directly to the tapping of the ventricles and points out with remarkable accuracy the procedure. At the same time he admits that he had never seen a case.

Trousseau (*Clinical Med.*, vol. I, p. 890) remarks that the brain has been tapped through the sutures and fontanelles for hydrocephalic accumulation, but he does not seem to think its advantages counterbalance its disadvantages.

Henoch (*Handbook for Phys. & Student*, p. 116, Wm. Wood & Co., 1882) says of chronic internal hydrocephalus: "At least I have achieved no results whatever, either with mercurial inunction, iodide of potassium or applications of tincture of iodine to the head. Nor can I promise any results from compression of the skull with strips of adhesive plaster, or from puncture through the fontanelles."

Gross (5th Ed., vol. II, p. 123) has practiced paracentesis in two cases, both dying within two days after the operation.

Agnew (vol. II, p. 886) speaks of the benefits of the operation as claimed by West and Conquest, but declares such results have never been obtained in this country. He describes only the tapping of external hydrocephalus when the sutures or fontanelles are not closed.

Meigs and Pepper (7th Ed., 1882, p. 557) refer to West's cases and give one of internal hydrocephalus, upon which they operated, death following in less than forty-eight hours. Examination, however, proved that the case was hopeless, the brain being disorganized at the base, and the child, less than three years old, the victim of miliary tuberculosis.

J. Lewis Smith (6th Ed., pp. 448 and 449) advises the performance of the operation, and regards it as simple and devoid of danger, but his remarks apply only to the congenital form, and evidently to those with opened sutures and fontanelles. He makes no reference to tapping in acquired hydrocephalus.

Gowers (*A Manual of Diseases of the Nervous System*, vol. II, 1888, p. 544) considers evacuation by puncture the most direct, but unfortunately the most dangerous, treatment, and advises that but a small quantity be let out each time, and compression of the skull by elastic bandages be kept up. This procedure, he says, is of course most suitable in external effusion, but it has been employed in the ventricular also, occasionally without ill effect, but with absolute success only in rare instances.

An operation in a different kind of case altogether, but with very similar technique, excepting that in this the dura was incised, is referred to by Senn,* an imperfect account of which is obtained from the *Mel-*

* Annual of the Universal Medical Sciences, Vol. II, page 36.

bourne Age, a non-professional Australian journal.

This operation was done for an echinococcus cyst in the brain on January 27, 1888. The patient, a girl of sixteen, was chloroformed. A button of bone one inch in diameter was removed from the left temple, the dura incised, and a trocar inserted through the substance of the brain, and the cyst successfully penetrated, a large quantity of fluid coming away.

Thus it will be seen that a diversity of opinion is expressed by authors as to the propriety of paracentesis capitis. But in the light of modern antisepsis, and of a more intimate knowledge of the brain anatomically and physiologically, it would seem that this operation must take its legitimate place among those which were once conceived to be both impracticable and impossible.

I can find reference to no other case similar to the one above reported, in which tapping was practiced for both ventricular and sub-dural effusion of the primary or acquired character, the sutures and fontanelles being closed, and trephining being required to permit of the entrance of the trocar.

DR. MURDOCH: I saw Dr. Ayres' patient, and assisted him at the operation. I saw the child but once—at that time. He is certainly improved physically; from my slight acquaintance with his peculiarities, I venture the opinion that he is much more animated and gives greater evidence of physical skill.

DR. THOMAS: I know of a case of congenital hydrocephalus, which was tapped and then strapped. Strapping resulted in convulsions and had to be abandoned. It is a question where—as in Dr. Ayres' case—the equilibrium between epithelial secretion and absorption is destroyed, whether any permanent result is attained by evacuation without the destruction of the epithelial lining of such cavities. I am on the negative side of the question. In my

opinion the fluid will be reproduced and with this will come the symptoms present before the evacuation.

DR. LIPPINCOTT: The restoration of sight so speedily after Dr. Ayres' operation is quite interesting. It was undoubtedly due to relief of pressure in the sub-dural space, Dr. Thomas' remarks remind me of the pathological analogy between Dr. Ayres' case and glaucoma. There we have the same sort of disturbance of the equilibrium between secretion and absorption. No amount and frequency of tapping has ever resulted in anything but temporary good. More than tapping must be done to accomplish a cure. It requires removal of a portion of the iris.

DR. LANGE: Exudations and transudations, inflammatory products and dropsical effusions are produced by congestions, active or passive; if epithelial activity was concerned in the production of the fluid in Dr. Ayres' case, as is assumed by Dr. Thomas, why need this factor alone be made responsible for the effusion? It is well established that large pleuritic effusions, not purulent, are frequently absorbed after removal of a sufficient quantity to abolish pressure. It is the pressure which constitutes the obstacle to absorption in such cases, and its removal restores to the absorbents their function. This restoration of a pleural cavity has been observed with sufficient frequency to warrant the belief that without the trocar, absorption would not have happened.

DR. McCANN: I am of opinion that Dr. Ayres' case was one of deep local abscess of the brain. There was very marked paralysis. A recurrence of the symptoms removed by the operation also points to this. The history of brain abscess is that symptoms repeat themselves with frequency, continuing for months and months, and resulting in imbecility. I would ask Dr. Ayres why he selected the point upon the skull which he did for perforation of the skull. It is not a point favorable to

free drainage. Dr. Ayres' trephine, also, was very small. In removing tumors the bone section should be large. The benefit received by the doctor's patient was due, in my opinion, not to the fluid which was removed, but to the evacuation of an abscess. The drainage employed was certainly beneficial; the question is, should not a drainage tube have been inserted? The case is an additional argument in favor of brain surgery.

DR. STEWART: There is a point in the etiology of internal hydrocephalus which has not been mentioned, namely, an obstruction to the communication of the ventricular cavities with the sub-arachnoid spaces of the brain and spinal cord, such as may occur at the aqueduct of Sylvius, which is naturally very narrow, or from closure of the foramen of Majendie. This, it seems to me, would explain some of the points of the case, namely, the gradual reaccumulation of the fluid and the small amount of fluid removed by the canula. A considerable amount of fluid exists in the sub-arachnoid spaces of the brain and spinal cord, and had there been a communication between the sub-arachnoid space and the ventricles, it is but natural to infer that there would have been a considerable amount of fluid withdrawn from this space instead of but little, as in this case, where only six drachms was removed. As regards the method of opening the ventricular cavity, Langenbeck has operated by thrusting a canula through the orbital plate of the frontal bone. This method, it seems to me, would obviate the objections of Dr. McCann regarding the manner of draining the cavity.

DR. AYRES: In reply to Dr. McCann, I wish to say that I cannot call the case one of abscess. The fluid evacuated was clear and watery, and though we did not examine it under the microscope, we did make a chemical examination of it and found it contained no albumen. The specific gravity was not taken, as not enough fluid had

been removed. But I never thought of an abscess, because it seemed perfectly clear to me that the case was one of pressure on the brain from accumulation of fluid. I made the small opening merely because I knew it would not require a large opening. We selected that point because it was the one most spoken of by authorities. As I said, I could find no regular cases of trephining. I thought it a safe point, and as the result proved, it was safe.

DR. HERSMAN: It is considered unsafe to draw off more than two ounces of fluid. In Dr. Ayres' case we removed an ounce and the drainage evacuated considerable more. As to the point of operation, it was fixed by the experience of prior operators, and the result proves that no injury was done by it. The subsequent drainage evacuated probably six ounces, perhaps more. The quantity of fluid in the patient's head was certainly more than is normal. The restoration of the sight—absent before the operation—is conclusive evidence that this absence was caused by pressure, i. e., by a greater than normal amount of fluid in the head.

DR. HITZROT reported a case of

CYANOSIS AND DEATH OF INFANT.

Was called January 2d to a woman said to be in labor. She had 3 living children and had had two miscarriages. Her former labors had been normal. Her family history was excellent. No syphilis nor epilepsy on her nor on her husband's side. I found that she was not in labor, but was suffering with painful convulsive contractions of the muscular system of the whole body, with entire absence of uterine contractions. These pains recurred every 20 or 30 minutes. I considered them epileptic and gave her full doses of the bromides, which controlled them while she remained under the influence of the drug. On January 22d, upon which day she had a series of attacks, she was delivered, after a normal labor, of an eight-pound male infant. She had a few attacks during three following days,

after which they recurred no more. She made a good recovery. The infant was of a natural color when born, but rapidly this became cyanotic, and then decidedly blue. He had a peculiar, plaintive whine which was constant. There was a slight bulbous enlargement of the finger ends. The infant lived seven hours, took a little sweetened water, but passed neither feces nor urine. A post-mortem examination was not had. Whether the cyanosis was due to pulmonary stenosis, or to perviousness of the foramen ovale, is immaterial; the interest in the case centres upon the connection, if any, between the epileptiform convulsions of the mother and the anatomical cause of the cyanosis of the infant.

SIX MONTHS' FŒTUS BORN WITH UNRUPTURED MEMBRANES.

DR. BATTEN reported a case, where, after prolonged moderate hæmorrhages, a six months' fœtus was born, encased in the membranes. These were at once ruptured, but the child was dead.

PASSIVE MOTION IN FRACTURES ABOUT JOINTS.

DR. LANGE: I desire to report two cases of fracture of the astragalus, first, because fracture of this bone is not a common one, but more particularly, as illustrating the good effects of immobilization. The first case happened in a young man, in consequence of a ten-foot perpendicular jump. This patient walked a distance of three blocks after the accident. He denied the existence of a fracture. He treated himself with liniment and lotions. His ankle-joint was not put at rest. The other patient, a man of 37, fell from an elevator, a distance of 30 feet, striking upon his right foot. His ankle joint was put into plaster under extension. The plaster was removed in four weeks, and three months after the accident his ankle was strong, useful, painless, mobile, and without visible deformity. The first case, now nearly two years old, presents considerable stiffness and enlargement of the joint, with pain on motion. It

resulted in a painful and enlarged joint. The very great difference in the result of these two cases is to be ascribed to the difference of treatment, and illustrates the beneficial effect of immobility in this fracture.

Two years ago I dressed an arm for fracture of the internal epicondyle of the humerus, which happened a young lady by a fall from her horse. The dressing, although frequently removed, was worn for four weeks. After this time passive motion was employed, and the result was, and still is, that the arm cannot be entirely extended. There is deformity. The arm cannot be made quite straight, and there is thickening of the condyle. When I reported this case to the Society, the opinion was pronounced that immobilization of the joint had been too long continued, that if passive motion had been instituted earlier, deformity might have been avoided. This opinion was not unanimous, however; it was also held that four weeks' quiet of the joint was the best treatment for the fracture.

Finally, two cases of Colles' fracture have been for me very instructive, as examples of the result of early passive motion. In one of these cases I removed the splints on the tenth day, in the other on the fourteenth day. Passive motion was not, however, immediately employed. The wrists were simply released, and patients instructed to move the fingers. When the splints were removed the swelling had disappeared, and the temperature of the arms was no longer elevated. But swelling and temperature elevation returned because of removal of the splints so early, because of the lack of immobilization. Motion so early is a most powerful irritant. And irritation, evidenced by swelling and temperature elevation, is synonymous with additional deposits about, between and upon muscular sheaths and tendons which later become organized, and prohibit normal movement. Of all Colles' fractures I

have treated, these two, as far as usefulness of the hand is concerned, are the worst. This is not true of the characteristic deformity—the prominence of the ulna, which results more from the nature and complexity of the fracture than from its treatment, but it is true of the fibro-cellular ankylosis, which determines the amount of permanent damage to finger and wrist movement. I have no doubt the early removal of the splints alone is responsible for the result in these cases.

DR. BATTEN: In my opinion, a patient with Colles' fracture will get along better without splints than with them. I have removed the splints in two weeks, and made passive motion. I have always removed the splints in three weeks. I have dressed this fracture simply with adhesive strips, and had a better result than with splints. Fingers, wrist, elbow and shoulder, all grow stiff with splints.

DR. KEARNS: Many years ago I treated a case of Colles' fracture with a straight splint with an elegant result. For many years now I treat all Colles' fractures, all fractures of the radius and of the fore-arm, with my flexed splint. My splint carries out the most important principle of the treatment of fractures at the wrist, namely, complete relaxation of all the muscles of the hand and fore-arm. My splint retroflexes the hand, relaxing all the muscles on the dorsum of the arm and flexes the fingers, relaxing all the flexors on the opposite aspect of the arm. This is the principle of the splint, perfect muscular relaxation as well as fixation of the bones.

DR. MURDOCH: The cases of fracture in the vicinity of joints, related by Dr. Lange, well illustrate the advantages of rest, and the immobilization of the fractured bones until union has taken place. They also show the evils which may result from a too early resort to passive motion. I fully agree with Dr. Lange in what he has said. This is a very interesting question, namely: When should passive motion be commenced

after fracture near a joint? Prof. Hamilton and other eminent authors have said that in treating fractures in the vicinity of the elbow-joint, that passive motion should be commenced after a week or ten days from the receipt of the fracture; and he also says that in many cases these fractures could be best treated without any splint at all. It was my custom in the first years of my practice to follow this teaching. And in following it, and in seeing it practiced by others, I have seen joints becoming stiffer and stiffer until complete ankylosis of the joint has occurred. More extended experience has fully convinced me that the practice is altogether wrong. It is contrary to the first principles by which all injured parts should be treated. Rest of any part of the body which has met with a severe injury is the first principle of treatment. This is especially true of fractures. The fracture should be *first* reduced, and, *second*, should be retained in position. And no motion of any joint should be permitted which might displace the fragments. The immobilization should be maintained until union between the fragments has taken place, which can only occur after three or four weeks. Then passive motion of the very gentlest kind, and motion which does not cause any pain, may be permitted. A departure from this practice can only result in displacing the fragments, cause inflammation in the sheaths of the tendons, favor an effusion of lymph, a too abundant callus, and ankylosis of the joint.

DR. MCCANN: Dr. Murdoch has voiced my opinion regarding rest and passive motion in fractures about joints. Stiffness from fractures about the elbow joint occurs not from want of passive motion, but because in young persons small bone fragments unite wherever they may happen to be placed by the violence of the fracture. Then it may happen that new bone, bone uniting the fragment to the shaft, will be formed and forever impair the usefulness of the joint, particularly the elbow joint.

This happens no matter what kind of splint may have been used, straight, flexed, or simply a sling. You will occasionally get a bad result in spite of all or any splint you may use, in spite of passive motion. I believe, however, that all fractures should be kept at rest until union has been accomplished. After this adhesions may be broken up by gentle passive motion. The only other thing I wish to say is that I hope the Society will not endorse the principle that Colles' fractures should ever be treated without a splint. It would under no circumstances be safe to state to a jury that no splint had been used in the treatment.

DR. THOMAS: I believe fractures should be kept at complete rest until united. Colles' fracture can be well and properly treated with almost any splint. The multiplicity of splints for this fracture proves it. The final result will depend upon the amount of injury, besides that done the radius, which the accident has inflicted. If the bone only is broken the result will be good. If, in addition, the ulna is dislocated, then it will be less good; and other additional injuries will have their weight in determining the final result.

DR. LANGE: I am sorry I failed to emphasize the point I wished to bring up for discussion. It was whether passive motion should be made after a week or two. Those gentleman who have spoken this evening have decided with me. I think it bad practice to make passive motion early in the treatment of fracture about joints.

DR. BUCHANAN: It has occurred to me that the value of special splints and other apparatus used to maintain apposition of broken fragments of bone is often overrated. I am reminded of a case of fracture of the clavicle, in which the patient removed the dressings in a few days, despite the warnings of a possible deformity, and returned to his work. He had, however, good apposition, good union and no excess of callus. This and other similar cases have made me

somewhat skeptical of the absolute necessity or even the advisability of many of the immovable dressings now in use. Rest of the bone is unquestionably the great desideratum, but the value of much of the cumbersome apparatus used might be questioned. In this connection I would remark, since the treatment of Colles' fracture without a splint, after the method of Dr. Moore, of Rochester, has been mentioned, that if this is a good method of treatment, it should be adopted irrespective of the legal responsibility involved.

DR. MURDOCH, in commenting upon the case related by Dr. Buchanan, said, that fractures will unite even when a good deal of motion is permitted between the fragments, and even when the fragments are somewhat asunder is well known. It is well known that the fractures which the lower animals receive in their combats with each other, and as the result of falls, readily unite, notwithstanding that they are not accurately adjusted, or maintained in position. So also in man, in bones which it is impossible to keep at rest (as the ribs) do they unite. But the union which is effected in these cases is by a very abundant supply of callus. In these cases there is always a great amount of provisional callus, a large ensheathing callus.

In the case of a fractured clavicle, when the fragments have not been accurately held in position, the only evils which result are the deformity and the greater length of time for union. The manner in which fractures unite, where the adjustment is accurate and the immobilization perfect, is entirely different. It is probable that in these rare cases union will take place as it does in the soft parts, namely, by first intention. In these cases there is no provisional callus. Where provisional callus exists motion between the fragments has been permitted, and the amount of callus will be in direct proportion to the amount of separation and motion.

From what has been said it is evident

that, although accurate adjustment and motion between the fragments will not always prevent the union of bones, it will always delay the union, and result in some deformity of the bone. The resultant deformity may not be a matter of great moment in some bones and in some situations, but when it occurs in, or near a joint, it is likely to seriously interfere with the motion of the joint and may produce bony ankylosis. It is for these reasons that in all cases (and especially in the treatment of fractures in the vicinity of joints), that the adjustment should be as perfect as possible and no motion permitted until there is some union between the fragments.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, January 21.

THE PRESIDENT IN THE CHAIR.

DR. CHAS. WARRINGTON EARLE read a paper entitled:

THE CONTAGIOUSNESS OF DIPHTHERIA, AND ITS MUNICIPAL CONTROL.

With us there has arisen the question sometimes whether a given case was diphtheria—follicular tonsilitis—tonsilitis without deposit, or simple ulcerative stomatitis. We have sometimes criticised physicians who have called a pharyngitis with a few white spots, diphtheria. In view, however, of the fact that some of these very mild cases have proven markedly contagious, it is a question with me as to whether physicians who call and treat a mild case as diphtheria, have not in the main been correct. My conversion to this procedure was brought about as follows: In 1878, I was attending a family consisting of four girls and one boy. The female children had sore throats, characterized by redness, some pain and a few white spots. It was diagnosed as follicular tonsilitis, and the parents were informed that there was absolutely no danger. In the course of a few days the boy was taken with the same symptoms, which rapidly became more

alarming. General infection in the course of two days took place, and death resulted. I have always thought that if I had diagnosed diphtheria in the first patients, treated it as such and sent the boy away from the infected locality, he might be alive to-day. This, with other cases, has changed my diagnosis and practice entirely.

About six years ago I was treating a case. It was a mild one, and recovered rapidly. During the course of treatment a relative of the family, with two children, was journeying from the east to their new home in Dakota, and stopped for twelve hours in this infected house. Neither the mother or children were in the room with the mild case I was treating—indeed, not on the same floor of the house. They remained a single night in a remote part of the house, and in the morning resumed their journey. In one week after arriving in Dakota, one of the children sickened and died; in another week the remaining child died, and the mother barely escaped death from the same disease.

Although the contagiousness of this disease has been recognized for two hundred and fifty years, we at this day find members of our profession denying it, and refusing the greatest safeguard to not only their own families, but to the public at large, in casting their influence against isolation and other means to prevent the spread of the disease. The authorities, almost without exception, are a unit in regard to its contagiousness.

In this connection there are many questions which might with profit be discussed, such as the time of incubation, the identity or non-identity of croup and diphtheria. But its contagiousness, in my judgment, is of the greatest importance. One would think, from our discussions, that the chief aim of the practitioner of to-day was to tube or perform tracheotomy. The object paramount, in my judgment, should be to prevent the disease, which, in large measure, can be accomplished if we are a unit as

regards our opinions of contagiousness, isolation and disinfection.

In view of the mortality from this dread scourge, a hundred fold more than from small-pox, I see no reason why our local board should not have this matter in charge, investigating each home invaded by this disease, and seeing to it that what is known regarding disinfection and isolation is rigidly enforced.

DR. OSCAR C. DE WOLF: I should like to put a pretty broad interrogation point after the assertion that pseudo-membranous croup and diphtheria are identical diseases. A few years ago I asked the opinion of the profession of this city on that point. I received about 500 replies, 60 per cent. of them assenting to this identity, and I have no doubt to-day that if a consensus of the professional opinion of this country and Europe were taken more than 60 per cent. would assent to the assertion that they are identical diseases, and yet, sir, I cannot escape from my own conviction—an opinion which will not, and ought not, to have very much weight in this society, yet I cannot escape from the conviction that there is a wide divergence between pseudo-membranous laryngitis—inflammatory laryngitis pure and simple, and epidemic diphtheria pure and simple. There is a vast divergence, it seems to me, in the condition of the patient passing through the disease; the one a local inflammatory condition, the other a true toxemia. And from the etiological stand-point, which must be the stand-point of preventive medicine, which must be the stand-point taken by the sanitarian who would be of use to the community which he serves, there is a still greater divergence. The one a local inflammatory condition, and the individual passing through it standing in the same relation to the public as a source of danger, as though he were suffering from an inflammatory rheumatism, no more, no less—two diseases produced by similar conditions. The other a true specific infection: the introduction of

a germ which reproduces itself in the organism to a limitless extent, a germ which lies at the basis as a cause of this the most atrocious malady which afflicts the child class on the face of this earth to-day. A veritable pestilential disease, which should be classed with other pestilential diseases, differing, perhaps, from them in epidemic manifestations, or degree of diffusibility throughout a neighborhood, yet essentially of the same character as scarlet fever, small-pox, cholera or yellow fever. It was, perhaps, a mistake, at least it has led to mistake, that those eminent men, Simon and Farr, spoke of diphtheria as a filth-disease. It has misled the popular understanding; it has misled professional understanding. The profession and the people have been hunting for the cause of diphtheria in filth of domicile and surrounding, and they have neglected that prime necessity to which the orator has referred to-night, that prime factor in the case, personal intercourse, and the infection which it carries. It is not true that any amount of filth, or heat, or moisture, or any combination of these, can produce the specific germ of diphtheria any more than manuring a field will produce a crop of corn. It is possible that filth, and heat, and moisture in a domicile and surrounding it increases the mortality of this disease; though that I am somewhat disposed to doubt, from recent experience.

Now let me say a single word touching the municipal control of this disease. I will follow the line of thought of the orator in what I have to say, and it stands in about this way. We have a communicable disease infecting a house, or epidemic manifestations of that disease in the neighborhood; its diffusion throughout that neighborhood depends entirely (following the suggestion of the orator) upon the facilities of personal intercourse; which I believe. At a previous meeting of this society a resolution was introduced, at my request, suggesting an expression of opinion from

this society touching the propriety of placarding that house. That resolution, much to my regret, was tabled. I will tell you why I regret it. The card upon the house indicates the professional understanding of the danger connected with the appearance of this disease in a neighborhood. It says to the family within the house, you are afflicted with one of the gravest diseases which can afflict your household, and you have become a source of danger to the neighborhood which surrounds you. It says to the passer-by, flee from that house as from a pestilence. That is the professional recognition of danger connected with that dwelling. The card on the house is a popular educator, leading the understanding of the neighborhood, of the people, up to the plane of the professional recognition of the danger. Two or three gentlemen have called upon me during the past fortnight to say they would like to see that card, but it was an annoyance to families, and the family charging the annoyance to the physician who reported it, says, Dr. A. is a mean man; we will discharge him and have Dr. B., who won't report it. I do not say that that may have induced this society to have tabled the resolution, because to admit that is to impeach the profession in the position in which it should stand before the community. One gentleman says, we will lose our patronage. I detest that word patronage, sir, in connection with our profession. I detest the word patron. You have patients, my dear sir; patients who love and respect you; *but you have no patrons*. You have patients who trust you to relieve them from their physical suffering, but the moment they feel that your neighbor is more competent to relieve them than yourself, it is their duty to themselves to go to your neighbor, and you would be the first man to hasten them. The more we get away from the idea of patronage and patrons the more we elevate our profession out of the odor and away from the methods

and manners of hucksters. If a family objects to the card, it is the duty of the physician to say to them, "that card represents my opinion of the danger which surrounds you, and if with that understanding you desire my services they are yours, but without that I refuse to serve you."

DR. J. R. CORBUS: I feel it my duty, as well as privilege, to state that I came from a neighboring city where diphtheria has been raging in an epidemic form for the past three years. It was my official duty as health officer to devise some means of checking the contagion, and the Mayor and City Council clothed me with power to use whatever means I saw fit, consistent with good judgment. The city of La Salle, where I came from, during the month of November two years ago had 95 cases of diphtheria and 35 deaths, out of a population of 10,000 inhabitants. There was no attempt made by the profession, or the former health officer, to prevent the intercourse of children and families, neither was there any attempt to placard the houses. I had an ordinance drawn up and passed, empowering me to placard the buildings, and to arrest anybody that was seen going into those houses after that notice was put up, and also to take immediate steps to isolate the patient, and, if necessary, to take charge of the patient and employ proper nurses. I carried these instructions out to the letter. The result of this procedure, with proper isolation and fumigation, lessened the disease the first month almost one-half, and the mortality in proportion. That system of placarding and isolating has since been followed. Not only did I isolate, but I used prophylactic treatment. There were some instances where the families were poor (La Salle is a poor mining district), and these were taken care of. The result of this procedure is that the mortality is very much lessened, and the disease is almost under control, although it has been raging as a contagious disease in that

city for the last three years. This ordinance was passed two years ago. At the next meeting of this society I will present the official report. I have it printed; also letters from physicians, calling my attention to the disease in families. The city of La Salle is composed of miners, who are dependent upon their daily labor, and when a family becomes stricken by disease, they have to have municipal help, and in that way I think it cost our city several thousand dollars in two years to support those people and give them proper treatment. In any instance where I thought the individual should remain in, I kept the whole family from mixing with their neighbors. Some of them thought it was pretty hard treatment, but it became a necessity, and they readily complied.

DR. J. G. KIERNAN: In regard to the contagion of diphtheria, while I do not lay claim to extensive experience, still there have been one or two instances under my direct observation that has raised the question in my mind whether it is not as desirable to isolate every case of diphtheria as rigidly as every case of scarlet fever. One instance I remember distinctly: A little girl had a favorite cat which she was in the habit of fondling. This occurred in a very healthy country neighborhood. The girl was taken sick with diphtheria; the cat was fondled for awhile, when the child maltreated it, and it ran away and made its appearance in a house two or three blocks distant. This child had contracted diphtheria in another place and brought it there. That house and the house where the cat took refuge were the only two houses in that village that had diphtheria. The people got scared at the cry of diphtheria and forced a quarantine. This instance proves to my mind that through the medium of domestic animals diphtheria can be conveyed. Such instances are frequent in the literature. During 1885 there was a diphtheria epidemic in Greece, conveyed by means of

domestic fowls; and another conveyed by turkeys, in Asia Minor. Whether these are reliable is a question, but still the appearance, from time to time, in the literature, of cases of diphtheria conveyed by animals enforces a caution.

DR. C. T. PARKES reported a case of
AMPUTATION OF THE SHOULDER FOR SARCOMA.

Professor Adelman gave an address before the Surgical Society of Berlin, on the 4th of June last, concerning the operations for removal of the upper extremity, together with the scapula, a part or whole of the clavicle. His address contains the history of the operation, placing the date of the first reported case at 1808. The operation was next performed between 1830 and 1840 five times, between 1840 and 1850 five times, during the next decade three times, during the next seventeen times, during the next thirteen times, and since 1880 twenty-six times, making in all seventy reported cases. He discusses the statistics of Paul Berger, comprising fifty-one cases, and his method of operation. Adelman makes three classes: (1.) Cases in which the operation was performed after traumatism. (2.) Those in which the operation was performed for benignant tumors. (3.) Those in which the operation was performed for malignant tumors. In the first class there are fourteen cases, with nine recoveries; in the second class three cases, with three recoveries; in the third class fifty cases, with twenty-four recoveries. These are subdivided into sarcomata, of which there were twenty-six, enchondromata, seven, encephaloid tumors, of which there were four, the remaining number bearing different names in different languages.

Of the fifty cases operated for malignant tumors, in twenty-five the entire operation was completed at one sitting. Among these cases there were ten recoveries. Of the twenty-five cases having more than one operation each, nineteen cases were oper-

ated in two sittings, with ten recoveries. Four cases had three operations each, with three recoveries. Of two cases with six operations each, one recovered. These recoveries, however, simply apply to the operation itself. Deaths from recurrence after healing of the wound are not counted in the statistics. Among the twenty-five cases in whom several operations were performed, there are seventeen in whom the arm was primarily removed; but having recurrence it was found necessary to remove the scapula and clavicle. Prof. A. remarks that this should induce us in the future to perform the entire operation at first; because these cases were all seen early, and the chances for radical cure must necessarily have been good; as it was, only five of all these twenty-five cases remained free from recurrence in after years. One of these after thirty years; another after twenty, two after six and one after three. In the fifteen cases of death after one operation, seven cases were due to the operation or to the low condition of the patient at the time of operation. Two to shock, three to hæmorrhage, one to gangrene of the flaps, one to purulent pleuritis and one to secondary hæmorrhage. In eight further cases in which the wound was completely or almost completely healed, the patient died from recurrence; this occurring five times in the lungs, the time of recurrence varying from three years to four months after the operation. In view of the frequent occurrence of secondary tumors in the lungs, the author advises careful examination of this organ before the operation, and considers the evidence of the presence of tumors in the lungs as a contra-indication for operation. The percentage of recoveries from this operation for malignant in all the reported cases, is a little less than fifty per cent. Many methods of operation have been adopted by the different operators, but the plan of ligating both the sub-clavian artery and vein primarily, seems to be advisable.

I will show the case as rapidly as possible, in order to let the patient get out of the room. You see that the wound is almost healed, all except this one spot of granulation. The boy, from his general appearance, is much healthier and stronger in every way than previous to the operation. You will notice that there are quite a number of little pleats here, as if the sewing had not been done very well; there is, apparently, a superabundance of flap at the upper part, which might have been used to close this gap of ulceration, but this resulted because I had not any plan in view before the operation, and made my flaps a little too redundant, so that when the lower flap was brought in contact with the upper one, its fullness caused the foldings during apposition.

This case came before the clinic at Rush Medical College: A boy, quite reduced from pain, displaying merely an enlargement of the upper end of the humerus, implicating the shoulder joint. The growth surrounded the bone, but was not uniform in development. Manipulation showed seeming fluctuation, both on the anterior and posterior aspect of the tumor; so much so, that friends who sent him supposed that all that would be necessary would be to open an abscess. But the general aspect of the patient, and the general appearance of the tumor, rendered me suspicious of it, and, being suspicious as to its nature, I introduced an exploring needle in order to ascertain whether it contained pus. Instead of getting pus I got only blood. The exploring needle went through the soft tissues to the bone, calling attention to the fact that there was not only implication of the soft parts, but as well disease of the bone itself. The fact seemed apparent that it was a case of sarcoma, which had attacked the shoulder joint itself, probably commencing in the capsule and passing from it to the tissues around it, and that it would be very likely to recur after amputation, or other simpler operation upon the shoulder

joint. I put the case to the father, telling him that, as it was a malignant tumor, the only thing that seemed to me feasible was to do the operation of complete removal of the shoulder. He consented, and so the operation was done.

The immediate danger of the operation is hæmorrhage. There is another danger: the introduction of air into the veins when they are divided. All operations about the large vessels of the neck, or axillary space where the veins are apt to be patulous, are always a source of anxiety to the surgeon from their course. So, in order to overcome these immediate dangers, the thing to do primarily, before any attempt to make the incision for amputation, is to prevent the loss of blood directly and indirectly, by controlling the arterial and venous circulation, by ligating the subclavian artery and vein. These veins contain a large mass of blood, and if divided without control of them a good deal of blood would be lost, aside from the danger of the introduction of air into the vein.

Not having seen the reports of Paul Berger's method, I proceeded with the idea of controlling the hæmorrhage primarily. The first operation was done by an incision made above the clavicle, necessary for uncovering the subclavian artery, which was found and ligated close up to the side of the scalenus anticus muscle. The incision was then carried directly above to the top of the shoulder, the same as for amputation at the shoulder joint. This incision was prolonged in this way to the axillary space, and along the line of the axillary border of the scapula. As soon as the axilla was opened, the pectoralis major and minor muscles were divided, and instead of tying immediately the axillary vein, it was included between two hæmostatic forceps, and the vein divided between them; then the main trunks of the brachial plexus were divided. Then the arm was drawn over the front of the body, and this incision adopted for the excision of the scapula,

running along the line of the scapula so that the posterior flap was divided into two portions, and these two flaps were rapidly dissected off, until the posterior part of the scapula was uncovered, it raised from the chest wall, and the muscles divided, and the extremity removed. All bleeding points, with axillary vein, were now ligated, and the flaps united. This operation was not done upon any specific plan. Following the suggestion of Mr. May, who, in the December issue of the *Annals of Surgery*, reports two cases of this operation, I have looked through all the books of my library, but have not found any specific method given for this operation. It remained for Paul Berger to give a plan for it. He was led to the plan he suggests after several trials on the cadaver. The quickest and easiest way of doing the operation and securing the blood-vessels is his plan of procedure. His plan is to make the incision from the inner extremity of the clavicle outward to the top of the shoulder, and then immediately uncover the clavicle and turn it out of the way; that leaves the subclavian vessels exposed, so that they can be easily secured. You all remember well, as the result of your past experience, that as one uncovers the front of the axillary space, there is always to be seen a ridge across it, produced by the raising of loose tissue and upon the external anterior thoracic nerve. It is easily found, and the reason I call attention to it is that as you pass outward along this nerve, it leads directly to the interval between the artery and vein, with the clavicle out of the way; and hence to them the vessels are superficially situated, easily isolated, and also free from diverging branches. The artery should be tied in two places an inch apart, and divided, and the vein also; then the circulation is absolutely under control. May advises that just before the vein is tied the arm should be elevated and held up a few minutes, in order to let the venous blood drain out of it, thus saving as much

as possible of the blood for the individual. In my second case I applied the Esmarch bandage up to the axilla, squeezing the blood out of the veins entirely; then, as soon as the arteries are secured in this position, with a rapid cut of the scissors the brachial plexus can be divided, and the pectoralis minor and major severed. The flap portion of the operation is done in this way: Commence at the center of the anterior incision, and carry the knife directly across the anterior part of the axilla to the lower angle of the scapula; then commence at the outer edge of the incision posteriorly, and carry the knife behind the joint to the same point; rapidly reflect the posterior flap; then all the muscular attachments should be divided, and the extremity removed without any trouble. This gives a perfectly even anterior and posterior flap, coming together easily and nicely, and one avoids the unseemly appearance of the anterior part of this wound, which was occasioned by the anterior flap being too redundant.

This operation was done six weeks ago, and there has been no time since the operation when we felt particularly anxious about the patient's recovery except the first few days. The patient's perfect recovery has been interfered with from an accident, the effects of which you notice, the sloughing of the flaps, leaving this ulcer. In dissecting up the flaps one is compelled to keep close to the skin, diminishing greatly the nourishment of the immense piece of skin. The danger is increased if one is not careful to avoid wounding the post-scapular artery; so it is necessary to bear in mind the direction of these incisions in order to secure as nice a stump as possible.

The second case came in about two weeks after this, demonstrating the assertion that almost all cases come in couples. This case was a man 37 years old, who came in one afternoon with a tumor on the top of his shoulder, occupying the situation of the supra-spinous fossa. It had all the

indications, so far as external appearances went, of a fatty tumor. Those who have charge of clinics labor under this disadvantage in all their cases. They do not have the opportunity of examining them previously, as surgeons in hospitals do, hence they are apt to go into a case without as complete an examination as the case is entitled to. This was examined hastily and the history hastily passed over, and the suggestion made that in all probability it was not a fatty tumor; and from the rapidity of its growth would prove to be malignant, and one that was connected with the superficial tissues of the spinous fossa. But as soon as the incision was made and it was exposed we saw the mistake, because it proved to be a tumor that grew primarily from the shoulder joint, and particularly to some part of the capsular ligament crowding out from beneath the supra-spinous fossa, and developing as large as a cocoanut upon the man's shoulder. Previous to his going to sleep no consent had been obtained to do so radical an operation as entire ablation of the upper extremity, so only a temporizing operation was done, the removal of the tumor so far as external manifestations were concerned. After he came out from the ether and inquired about it and had the nature of the growth explained to him, after consulting with his friends, in about three weeks he decided to have this operation done, and it was done, but he died in fifty-six hours after the day of operation. He was slightly shocked by the operation but recovered from that, and for twenty-four hours was quite well, with only slight elevation of temperature and pulse; then he was taken with delirium and died in a comatose state. I do not know exactly what was the cause of death, but I am inclined to think that it was poor policy to do this severe operation so soon after the primary interference. The man was still depressed, and in great fear of the severity of this operation. All these facts were against him. In this case,

with the operation by the method I have described as advocated by Paul Berger, I am quite sure it was more quickly done and with more satisfaction to the operator, and if he had lived, to the patient.

This second case properly comes under the head of secondary operations. It is quite noticeable from the report read, that the cases done by machinery are all reported as recoveries, and it is questionable whether they have a place at all in the classification of this operation, because the cause of death after the accident is not reported at all.

Stated Meeting, February 4.

THE PRESIDENT IN THE CHAIR.

DR. C. T. PARKES reported some cases of
SKIN GRAFTING BY THIERSCH'S METHOD.

Mr. A. Wielberg, age 48, came to the clinic in Rush Medical College January 19th, with a circular sarcoma of the right side of the head and face, measuring three inches in diameter and one and a half inches in thickness. The tumor was slightly movable, and had ulcerated throughout its superficial surface; had an angry appearance, and bled profusely upon slight manipulation. The patient had first noticed it five years ago. It had grown slowly at first, but more rapidly within the last few weeks. The face and scalp were very thoroughly disinfected, the scalp shaven, first being thoroughly washed with soap and water, then with clean water, then with bichloride of mercury, $\frac{1}{2000}$. The tumor was removed by a circular incision one-half inch from its edge on all sides: then it was dissected up, together with a portion of the temporal muscle. Then the zygoma and part of the malar was chiseled away, and almost all the tissues removed down to the temporal parietal and malar bones and upper part of parotid gland to the extent each one had been covered by the tumor. The vessels were ligated and the wound irrigated and dressed antiseptically. For

want of time the wound was not covered with skin at this time, but was permitted to granulate, which process went on in a perfectly normal and aseptic condition for ten days. I now proceeded to transplant skin on this surface by the method introduced by Prof. Thiersch.

This case was grafted one week ago, and now you see the entire surface is covered with skin. Without this treatment it would have taken this surface several months to heal.

In another case a child 8 years old had received enormous wounds from burns, almost completely covering one hand and the posterior surface of one thigh. These ulcers had been treated for several months without much benefit, and the child's leg was becoming more and more flexed at the knee. In one week each of these ulcers was covered with skin, and now the child, which was an emaciated cripple, looks fat and rosy, and has regained the use of its leg.

In a young man with atresia of one nostril, an opening was made and lined with skin, held in place by means of a plug of iodoform gauze covered with vaseline, and the patient dismissed with a good nostril two weeks later.

In another case the grafts became infected in some manner, and three-fourths of them were destroyed by the activity of the pus microbes.

Using no antiseptic solutions in dressing these wounds, it is evident that the greatest care must be taken to have most absolutely aseptic conditions preserved, for these delicate grafts are not able to compete with the microbes of suppuration in the struggle for existence, until they have gained a firm foothold. The method saves months of time to the patient, and hence money: enables him to get to work much earlier, and, too, saves the surgeon much annoyance. If irritation has anything to do with the quick return of malignant, this method certainly will diminish such danger. Again,

as the grafts can usually be obtained from the patient, the danger of inoculation of tuberculosis and other troubles, likely to occur after transplantation from other persons, is entirely avoided.

Stated Meeting, March 18, 1889.

THE PRESIDENT IN THE CHAIR.

PROFESSOR HENRY M. LYMAN made some remarks on the

ETIOLOGY OF NEURALGIA,

which appear in another part of THE JOURNAL AND EXAMINER.

PROFESSOR DANIEL R. BROWER read a paper on

THE DIFFERENTIAL DIAGNOSIS OF NEURALGIA,
(See this issue of THE JOURNAL.)

DR. H. N. MOYER read a paper on the

TREATMENT OF NEURALGIA,

in which he said it was the result of four or five years experience with the use of certain drugs. Remedies must be directed to the ætiology and conditions which underlie the system. Morphia, by reason of its powerful anodyne effects, must rank foremost in the treatment of neuralgia. Antipyrin must be placed second because of its powerful analgesic effect. A simple, but by no means to be despised remedy, is the injection of cold water under the skin. He had found this method more uniformly successful than was generally supposed. The injection should be made as nearly as possible over the point of exit of the effect nerve or bony or fibrous canal. If asked what remedy had been most useful in the treatment of chronic and inveterate cases of neuralgia, he would say aconitine. Next to aconitine was quinine, which was a very valuable remedy in those cases which manifest decided periodicity, and in neuralgias of a distinctly malarial origin, it is the remedy *par excellence*. Hypodermic injections of strychnia are useful. Arsenic is a remedy greatly extolled, its greatest usefulness being in the malarial forms of the trouble, and it is necessary to resort to

it sometimes in those cases in which quinine fails. Then might be mentioned, and unlike some of the before mentioned drugs, it seems to exert its principal action upon the peripheral nervous system, and theoretically it should be useful in the peripheral forms of neuralgia. Electricity should not be lost sight of in the treatment, and perhaps the form of current that is most useful is the galvanic. The polarity, however, seemed to make but little difference. The induced current may be useful in some cases, and is indicated. Static electricity produces results similar to those of the faradic current, and in some cases a cure is known to have been effected by extracting sparks from the region of the affected nerve when the patient is upon an insulated stool. Osmic acid, which has received extended notice of late, used in 30-minim doses of a one per cent. solution, injected over the site of the affected nerve, is one of the best means at the disposal of the physician. The solution should be freshly prepared, as decomposition takes place in a few hours, and then there is formation of abscess.

DR. F. C. HOTZ, in opening the discussion, said oculists had for many years been familiar with the fact that eye strain is very often associated with neuralgia of the supra-orbital and other nerves at more distant places from the eye, but as patients who consulted oculists did so mostly on account of disturbances which they directly referred to the eye, they (the oculists) had for a long time no opportunity to settle the question of the causative relation between eye strain and neuralgia. Within the past year or so, however, he thought the fact had been definitely settled that the disturbance in the functions of the eye, whether from focalizing apparatuses, their accommodation, or in the muscular adjustment of the two eyes in vision, a disturbance of the harmonious function of these apparatuses was a most prolific source of neuralgia, and it is not only the marked deviations from

the normal standard of refractive and accommodative function and manifest disturbance of the harmonious action of the erectile muscles which produce headaches, but a very slight degree of this disturbance—so slight, indeed, that in many cases patients are not aware of any error of refraction or accommodation until a searching examination is made by an expert. This had been mentioned within the last five years so frequently, and had been proven in so many instances, that he thought in any discussion on the etiology of neuralgia it ought to be spoken of, because he considered this as one of the most important advancements that had been made in practical medicine. The correction of such disturbances of the eye was in many instances the remedy for the relief of the neuralgia.

DR. LYMAN WARE said that in cases of cold affecting the membrane of the ear, which does not lead to any deep inflammation, but simply catarrhal difficulties, neuralgia occurs frequently, and invariably extends to different portions of the head. He would like to emphasize what Dr. Moyer has said in the treatment regarding osmic acid. A few years ago a gentleman had persistent neuralgia located in one of his fingers. The affected member had been treated several times, and he believed a portion of the nerve had been stretched or excised without permanently relieving the neuralgia. The neuralgia returned a few months after the operation. He resorted to osmic acid, and the first injection caused the neuralgia to completely disappear. This was the only case in which he had tried it.

DR. C. P. PRUYN said he often found the common source of neuralgia to be a calcification in the pulp of a tooth proper. There was nothing to lead one to think that it was a particular tooth that caused the neuralgia, hence the diagnosis was oftentimes made by exclusion of every known cause, and then perhaps the dentist

would drill into a tooth that had every appearance of being perfectly sound and find within the bony walls this calcific deposit.

DR. W. F. COLEMAN said that within the last two or three weeks he had met with three cases of neuralgia of the ear, due to reflex irritation, or that occurred through dental caries. These cases were referred to a dentist, who, after removing the caries, relieved the neuralgia in the ear.

PROFESSOR A. E. HOADLEY's experience had not been very extensive in operating upon the nervous system for the relief of neuralgia. One of the greatest difficulties standing in the way of surgeons is in locating the lesion that causes the neuralgic pain. The most common, persistent neuralgia requiring operative interference, and which gives the most trouble in making a diagnosis, is probably that of the fifth nerve. He then cited two cases to illustrate the difficulties of diagnosis.

DR. R. H. BABCOCK said there was a class of neuralgias that interested him, and more particularly angina pectoris, which is popularly supposed to be almost exclusively associated with organic disease of the heart. There were also cases of neuralgia of the heart which are inorganic, that is, not associated with organic disease of the organ, and these came under two heads, viz., *angina reflectoria*, and *angina vasomotoria*. He was satisfied that these two conditions were frequently associated with one or the same cause. He recalled to mind the case of a lady, 35 years of age, who is subject to attacks of angina with pronounced vaso-motor spasm, as shown by coldness of the extremities, paleness of the face, marked arterial tension, etc. This case he thinks is probably due to irritation in the pelvis. A careful examination failed to elicit any cardiac disease. Cases of inorganic angina pectoris are more likely to be found in the female than in the male sex, since the former are of a more highly nervous organization, and are

subject to so many pelvic diseases which exert a specially marked influence upon the general system.

PROFESSOR FRANK BILLINGS had a theory of neuralgia, based, however, on little broader grounds, and he hoped to prove part of it in the not very distant future. He believed that more general neuralgias depended upon auto-infection in an individual than upon any other one cause, and this self-infection comes, as a rule, from the digestive tract; that it is located in the tract of a certain nerve. For instance, if there is an error of refraction, the patient will have headache; if there is ovarian difficulty the patient suffers from neuralgia connected with that part of the body. The trouble connected with the digestive tract is the cause of more neuralgias about the heart than is recognized by those who make a specialty of cardiac diseases. With inorganic heart disease there is always more or less venous congestion of the liver, stomach, spleen, and other organs connected with the portal system. If Dr. Babcock had carefully inquired into the cause of the neuralgia in the case he reported, he would find it to be associated with indigestion, brought about by a too frequent indulgence in sweets and starchy foods, thus setting up fermentation within the digestive tract.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, March 11, 1889.

PRESIDENT I. N. DANFORTH, M.D., IN THE CHAIR.

DR. J. R. KOEHN read a paper entitled
ANTIPYRIN IN A CASE OF TYPHOID FEVER.

The patient was Mr. G., 29 years of age, parents, brothers and sisters all living and healthy. He was called to see the patient on January 6th. When 16 years of age he accidentally received a gunshot wound in the left side of the abdomen just below the spleen, exposing the gut and passing out at the back. The wound entirely healed, causing only an occasional pain.

Patient had always been healthy up to the time of the accident and since, until New Year's day, when he was attacked with typhoid. Dr. Koehn ordered antipyrin to be given in ten grain doses every three hours; laudanum in ten drop doses, to be given in case of vomiting. A diet of liquid foods was prescribed, consisting of beef tea and malted milk. The night following the 12th he was called to see the patient post-haste. He found him suffering intense pain in both legs, but more in the left. Patient said he felt his feet getting cold and going to sleep, this feeling gradually extending to the knee-joint. Rubbing and turpentine fomentations soon restored the natural feeling to the right leg and foot, but the left side did not respond at all. He had a prickling sensation in the sole of the foot and sharp shooting pain in the calf of the leg. This was so intense that a hypodermic of $\frac{1}{2}$ grain morphine had not the slightest effect. The next morning temperature was a little over normal; pulse 104; heart sounds perfect; pain still intense. Inspection of the limb showed the color of the toes and sole of the foot to be of a dead white, dorsal surface of a mottled blue; no swelling. Patient said he felt as though the sole of the foot was being torn off; sensation impaired half way up the knee. Motor power almost entirely destroyed in the ankle and foot. Evening temperature on the 14th day was 100°; pulse 110. Since the morning of the 13th day the leg had been elevated on a pillow and hot fomentations applied. The foot and ankle half way up to the knee had now assumed a dull bluish red color; there was crepitation of emphysema in some parts, swelling increasing rapidly. All the signs of moist gangrene were present. The next day continuation of symptoms; temperature 103°; pulse 130, small and thready. Internal remedies had been administered from the onset of the complication. The patient was gradually growing worse. On

the 19th day the temperature was 103.5°; pulse 125; patient delirious from over-stimulation. Chloral hydrate was ordered in 15-grain doses. This day the case passed out of Dr. Koehn's hands. Dr. C. Fenger, who was called in on the 22d day, found an imperfect line of demarkation, and about the condition that was present since the third day of the complication.

Auscultation gave a whizzing sound on the left side over the femoral artery, which was not heard on the right side and resembled the aneurismal thrill. Amputation was performed at the middle third of the thigh on the afternoon of the 23d day. The arteries upon being cut and tied did not exhibit the characteristic jerking with each pulsation, but were more of a pipe-stem consistency. Patient gradually grew weaker and died twenty-four hours after the operation.

Dr. Koehn in summing up, said: In searching for the cause of this complication we meet with great difficulties, as a post-mortem examination could not be obtained, and the condition of the internal organs, especially the heart, is unknown. The history of the case is free from any syphilitic taint. The remaining causes or theories that might be advanced are the following: The existence of an arterial disease described by Moxon as "inflammatory mollities," the occurrence of swelling, and softening of the arterial tunics in circumscribed spots, which become flabby and elastic. He believes that this condition depends on a peculiar state of the system and is found in young hard-working men; or, the existence of "endarteris deformans" (atheroma), which is always caused by over-exertion. The non-elastic state of the arteries in the stump shows that the large vessels above Poupart's ligament must have been diseased. Embolic plugging occurring in more peripheral vessels, as a result of detached fibrinous clots and atheromatous deposits, being washed away.

It is not impossible that one of these conditions of the circulatory system may have existed prior to the attack of the fever: the typhoid state causing impure blood, retarding the flow through the capillaries, increasing the tension of the arterial system, and thus favoring the development of the complication which caused such dire results.

Antipyrin in this case acted like magic in reducing temperature and giving the patient relief. But in causing such a profound impression on the system there is reason to believe that it also produces some important changes. Although reports in regard to serious organic changes are mostly negative, Professor Tullio reports 8 cases of articular rheumatism in which its action developed serous pericarditis, four others endo-pericarditis with subsequent mitral trouble. In another case transient albuminuria occurred, which ceased when the administration of the drug was discontinued.

DR. C. D. WESCOTT read a paper entitled, THE ACCIDENTAL COMPLICATIONS OF TYPHOID FEVER,

in which he quoted considerably from Dr. Bayard Holmes' article on "Secondary Mixed Infection in Typhoid Fever". (See THE JOURNAL AND EXAMINER, August, 1888.)

In speaking of the treatment of typhoid fever, Dr. Wescott said: The discovery of the specific microbe of typhoid fever has not, as yet, made it possible to prevent the disease, but in the light of the most recent studies, it would seem that typhoid fever, pure and simple, requires little more than careful management, and that all of the real danger to our patients is due to the secondary infections, which, possibly, we can prevent, when we fully understand them. If this can be done, may we not make typhoid fever, if not preventable, a comparatively non-fatal disease?

The treatment, *par excellence*, of the complications of typhoid is most certainly preventive, and in addition to keeping our

patient as quiet and comfortable as possible, and sustaining him with proper nourishment in proper amount and at proper intervals, I think we should make him as aseptic as possible both inside and out. *Inside* by means of the intestinal antiseptics, naphthol and naphthaline, with occasional salines, unless there is exhausting diarrhœa; *externally* by means of antiseptic baths and a clean environment.

I also believe that we can do a great deal to maintain the condition of the blood and to conserve the flagging strength by the judicious administration, from the beginning, of such tonics as arseniate of strychnia, and digitaline.

In regard to antipyretics, I believe the safest we have, when their administration is understood, are *aconitine* and *veratrine*; but I do not use the chemical antipyretics myself, if I can keep my patient's temperature below 103° by resorting to tepid sponging. I certainly am not in favor of the continued and routine use of antipyrin, and believe that the chemical antipyretics, as a class, do not shorten nor materially modify the course of typhoid fever, or its intestinal lesion, and I think the largest portion of the most recent evidence fully confirms me in my opinion.

I do not think, however, that the disastrous termination of Dr. Koehn's case was due to the fact that he gave his patient antipyrin. It was probably a case of secondary infection causing thrombus, which resulted in gangrene of the leg, and the result was inevitable.

PROFESSOR A. E. HOADLY said the case reported by Dr. Koehn was one of remarkable interest; but he could not see how we could consider the condition of gangrene a complication of typhoid fever any more than any other disease. Some four weeks ago he had an elderly lady patient, who died from fatty degeneration of the heart, and the same train of symptoms were present in that case as in the one cited with moist gangrene. From the time of the

onset of the pain, which marked the time of occlusion of the arteries, she lived about ten or twelve days, and he regarded it as a case of embolism. He was much pleased with Dr. Wescott's review of the complications, and the subject was one which would give the profession, when thoroughly understood, a new impetus and valuable addition to the treatment of typhoid fever. In this connection he would cite a complication of the disease which can just as well be denominated such as the case of gangrene of the leg which had been referred to.

A child, 11 years of age, was attacked with typhoid fever on the 28th of December last. About the 25th of January there was some trouble of the hip joint, which brought on neuro-muscular phenomena, fixation with flexion and adduction. The child was convalescing, and when sitting in a chair the adduction was well marked. The flexion, tenderness and pain increased, and counter-irritation was applied. Anodynes were given; the child had developed a high temperature. He was called in consultation to see what could be done for the joint disease. On examination he found the hip rounded, tense, and painful; temperature of 103.5° ; pulse 130 to 135. He concluded there was suppuration of the hip joint. He gave an anæsthetic for the purpose of correcting the position of the joint. He found it was luxated. He reduced the dislocation, applied extension, and the deformity largely disappeared. There was some effusion in the joint. He waited a few days for more positive symptoms before aspirating or operating, but the temperature came down the second day to about normal. He then lightened up the weight, and adduction and dislocation again took place in spite of everything. He again administered an anæsthetic, and reduced the dislocation. He then applied a heavier weight and kept it on for a couple of weeks. The child is now sitting up, moving about, perfectly comfortable and

straight. There is no swelling, no tenderness, but a moderate amount of flexion. This patient practically recovered in five weeks.

DR. W. F. LEWIS was glad some one had had a similar experience to his own, although the termination was not the same. The case he desired to report was that of a young lady who was attacked with typhoid fever, the abdomen being greatly distended, pulse of 120. He saw the patient about five weeks ago for the first time. She had previously been attended by a physician and dismissed from her first sickness about two weeks before the second illness set in. The temperature at no time arose above 103.5° . The case progressed very nicely until the 10th or 12th day, when the patient complained of pain in the ankle, calf of the leg, and in the left groin. There was very little delirium, if any, during the entire progress of the case. The first symptom complained of was pain in the left groin. Shortly afterward there was swelling, and the left limb was so flexed that it was difficult to straighten it. To alleviate the pain liniments of cotton, belladonna and camphorated soap were applied, after which it gradually abated. When the swelling had become quite tense, he applied the faradic current, and after the first application there was a modification of the pain. Two more electrical applications were made, when there was scarcely any pain experienced. On the fourth day from the time of the commencement of the faradic current, the swelling had entirely disappeared, and the limb was then easily straightened. He would like to inquire whether any of the members had used the continuous or interrupted current in such cases.

DR. KOEHN said the faradic current had been used (but not persistently) in his case for a few days without any beneficial result.

PROFESSOR H. M. LYMAN called attention to the extensive field covered by typhoid

lesions. It is a rare thing to see very many of the complications appear in the same individual, but if we take a large number of cases of the disease, hardly any part of the body could be found that had not been, or would not be, involved as a complication. He would call attention more particularly to the manner in which the nervous system is sometimes complicated as a consequence of the disease. And there were two ways in which the nervous system might become influenced by it. In the first place, we may have the direct poisonous effect of the typhoid bacillus and its excreta upon the brain, the spinal cord, and the nervous apparatuses of the body. This usually manifests itself in the ordinary course of the disease. Then later, after the typhoid fever proper has run its course, we may have complications involving the same organization, which, however, are of a somewhat different character. For example, we may have, as a complication, the brain affected in the early stage of the fever and during its course, which resembles more the effects of a subacute meningitis than what would be observed later. Post-mortem examination of patients dying in this condition shows an exudation along the walls of the vessels. There is a somewhat increased quantity of cerebro-spinal fluid, and a slight turbidity of the membranes. But when the complication occurs late (after the typhoid poison itself has run its course, and perhaps has been eliminated from the body) we may have disorder of the brain consequent upon an impoverished condition of the blood or upon an exhausted state of the brain and nervous system. In the late stage we may have a form of meningitis which involves the membranes of the brain and spinal cord in such a way as to considerably resemble the phenomena of cerebro-spinal meningitis. These phenomena (which present themselves as complications in typhoid fever) do not exhibit themselves in the early stages of the disease. They

vary according to the period of their manifestation.

In the spinal cord we may have complications, and these may take the character of a somewhat acute form of meningitis, or of chronic degenerations of the spinal cord itself, producing the various phenomena of muscular paralysis and atrophy consequent upon disease of the trophic centers in the grey matter of the spinal cord.

Then, lastly, we may have peripheral inflammations involving the nerves themselves, so that the patient will manifest loss of sensibility and power of motion in certain parts of the body, according to the diffusion of the inflammatory condition involving the nerves. These cases, of course, are rare, but they do occur after typhoid fever just as they occur after any fever that is produced by toxæmia. They may be observed after scarlet fever, measles, diphtheria not unfrequently and after small-pox. These are the principal complications that involve the nervous system. They are acute and resemble the more common forms of inflammation during the time of operation of the typhoid poison, but resemble more the forms of chronic degeneration of the brain, spinal cord and nerves, trunks and branches when they occur late, after the typhoid fever has expended its force.

DR. J. E. COLBURN said that some years ago when he was in general practice in northern New York quinine was used in large doses, and as a result ear complications developed; in some cases there was more or less complete deafness, and this was attributed very largely to the excessive use of the drug. He understands it is not used so extensively now, and that other remedies are used in its place. He would like to ask if the same frequency of deafness occurs through the use of other remedies, where there is no marked brain lesion or nervous organic lesion following. The quinine undoubtedly has something to do

with the production of the deafness where it is used extensively, and he would like to know whether the same results followed its use in typhoid fever.

Recently, he had observed a case in which neuro-retinitis followed upon a typhoid condition within three weeks. He saw the patient at her home. In this case, during and immediately subsequent to the fever, there were no symptoms of marked brain lesion, delirium, or disturbance, except the retinitis, which was very marked, and ran a rather acute course, terminating apparently without very much atrophy.

DR. A. HINDE had seen neuro-retinitis follow two or three cases of typhoid fever. The cases were observed in the convalescing period. In reply to Dr. Colburn, who asked whether there were any nervous symptoms observed during the fever, Dr. Hinde said that he did not see the cases during the fever.

In reply to Dr. John D. Skeer, who asked how much quinine was given, Dr. Colburn said he had not given any. He had only treated the neuro-retinitis present.

PROFESSOR HOADLEY had a case to report in this connection. The patient, 13 years of age, in the second week of typhoid fever, became absolutely deaf, this condition continuing some three weeks after convalescence had been established. There was no quinine given. The deafness came on gradually. There was no nervous disturbance or brain lesion. It was a very mild case of typhoid and ran a pleasant course. The patient fully recovered from the deafness in about six weeks from the time it commenced.

DR. BLINN reported the case of a boy, 3½ years old, who came under her observation two years ago. A sister had died of typhoid fever, and another brother had been ill with the disease, but recovered. The patient was sick about five weeks. After the second week he became blind, deaf, dumb, and was greatly emaciated. There was very little hope of recovery, but

in the course of three weeks from the time he began to lose his senses, he slowly and completely recovered, so that now he is bright and healthy.

THE PRESIDENT said he was called to see the case reported by Dr. Koehn, and made the suggestion that possibly the gangrene of the leg may have been due to antipyrin. He ventured this suggestion because his experience with the drug in St. Luke's Hospital had been very unfavorable. The internes of the institution had given it in from 15 to 20 grains. When the temperature arose above a certain point—perhaps 102 or thereabouts—antipyrin was administered to force it down, and in two or three cases alarming depression followed its use. He had been cautious in its use since that time for two reasons: (1) Because of the consequent cardiac failure, and (2) because he was convinced that, so far as the typhoid fever went, it did not do any good in either shortening the disease, or modifying the lesions consequent upon it. He thought it was not improbable that there had been a venous thrombus due to cardiac failure.

A few days after he was called to see Dr. Koehn's case he went East, and while in a doctor's office in Boston he picked up a copy of the *Boston Medical and Surgical Journal*, and saw an account of a similar case in which gangrene of the left leg had followed typhoid fever. Amputation was performed, and the patient recovered. There was no account given in the journal of an examination of the vessels of the leg, nor was there any theory advanced as to the cause of it. The writer, however, called attention to similar cases cited in Pepper's System of Medicine, in the article by Hutchinson, of Philadelphia. If the patient's leg had been preserved and examined it would either substantiate or overthrow the bacillus theory. He was not, as yet, an absolute convert to the so-called microbic theory of disease.

DR. J. M. PATTON wished to speak of antipyrin as possibly causing the condition

found in the case reported by Dr. Koehn. It recalled a case of typhoid fever that he had treated two or three years ago when antipyrin was first introduced as a remedy in the treatment of the disease. The patient, a married woman, 22 years of age, was in good health up to the time of the attack. He had used all the antipyretics he could think of without bringing the temperature below 102°. Quinine the patient could not tolerate, either the sulphate or bromide, so he used antipyrin. The foreign journals were then recommending it in gramme doses, to be administered in quick succession. He gave the patient three gramme doses the next day, and about four o'clock in the afternoon the husband came for him very much frightened, and said his wife was going to die. Dr. Patton found the patient in a rather peculiar condition, the whole surface of the body being of a red hue, which was produced by dilatation of the capillary vessels. The patient was in a nervous condition. He assured the relatives and friends she would be all right. He remained to await developments. The temperature when the antipyrin was given was 103°: at the time he saw her it was about 99½°. He remained with the patient about two hours, when the natural color returned, and the temperature arose to 104° before he left the house. The next day the patient was very much depressed, and developed a nervous twitching about the muscles of the mouth, which she was unable to control. The thought at the time occurred to him that antipyrin administered to persons of her constitution in typhoid fever was a dangerous remedy. If the drug has such an effect on the vessels, he could not see why it might not produce such a condition. Whether a thrombus is indirectly due to microbes or ptomaines, we must necessarily have some local condition, otherwise we should have thrombosis in all cases of severe poisoning by microbes, and it seemed to him that antipyrin may (by

dilating the vessels and changing the blood pressure as it did in this instance) furnish the conditions necessary for a thrombus to develop.

DR. WESCOTT, in closing the discussion, said that Bristow and other authorities mention thrombosis causing gangrene of the leg, following or complicating typhoid fever even before antipyrin was given. He thought the theory was established, as well as anything could be established in bacteriology, that there is a specific bacillus which with its ptomaine so influences the human body as to give us the collection of symptoms that we call typhoid fever.

DR. L. B. HAYMAN read a paper on the
HYPODERMIC USE OF PILOCARPINE IN SEROUS
EFFUSIONS,

in which he said he had used pilocarpine in a number of instances, both as a galactagogue and as a diaphoretic, and in one case the use of the drug was continued for several months with most gratifying results.

Case.—The patient was a young lady of 17 who came to the city from Earlville, Illinois, suffering from chronic Bright's disease. She was under the care of Professor I. N. Danforth, who, upon leaving the city for a time, placed her in my charge, and I saw her for the first time on the 5th of September, 1887. She had been sick for about eight months, and was in the later stages of chronic nephritis. There was extreme œdema of all the cellular tissues of the body, so that the patient could not move from her chair. Both pleural sacs contained fluid, the respiration was difficult and there was a harsh dry cough; the heart was labored in its action. For days the patient had been unable to lie down and spent the nights in her chair, catching an occasional short nap with her head resting upon a pillow on her lap. She was restless and nervous, although very patient. But little nourishment could be retained, and the end was apparently so near that relatives had been summoned.

Diaphoresis had been invited by hot air baths, and diuretics and hydragogue cathartics had been freely used; but still the dropsy increased. The swollen feet had been tapped twice, allowing of considerable escape of serum, with but temporary benefit.

An examination of the scanty urine showed an immense deposit of albumen, about three-fourths of the contents of the test tube solidifying with heat. The urine was of high specific gravity, and showed under the microscope a large number of blood corpuscles, clouds of granular and epithelial casts, with renal epithelium.

The weak, rapid heart, and the labored respiration both contra-indicated the use of pilocarpine, but other remedies had failed and it offered the only chance of benefit, so I decided to use it. The patient was placed in bed—seated, for she could not lie—and a hot air apparatus was placed under the blankets. She was given half an ounce of brandy, and then a hypodermic injection of $\frac{1}{3}$ of a grain of the muriate of pilocarpine. In about a minute the constitutional effects of the drug appeared, and soon there was an abundant secretion of saliva and the attendants were busy wiping the streams of perspiration from her face and neck. There was coughing with free expectoration of mucus; the respirations became easier, and the pulse, which had been about 120 to the minute, fell to 100.

The patient expressed herself as wonderfully relieved. The perspiration lasted about two hours and was followed by a quiet night. The injection was repeated on the following day with similar results. In each case the sweating was profuse and was followed by a marked diminution in the nervous symptoms. The injections were given daily for several weeks, accompanied by iron, digitalis and hydragogue cathartics. Under this treatment the dropsy steadily diminished, so that soon the patient could lie down; the nervousness was lessened, and there was a gain in appetite and strength. The urine was also improved.

The amount of albumen was much diminished and the casts, at first so numerous, were found with difficulty. There seemed to be real improvement, not only in the general symptoms, but in the condition of the kidney as well,

The gain was so gratifying that, after about four weeks, the patient, feeling sure of ultimate recovery, began to speak of returning home. She thought the treatment might still be carried on at her home in Earlville, and on the 5th of October, contrary to advice, she took the train for home.

Because of the condition of the heart, her home physician, Dr. E. T. Goble, of Earlville, Illinois, would not use the pilocarpine until after he had communicated with me, and in the two or more weeks which intervened the dropsy rapidly returned. The hypodermics were then recommenced, and persisted in almost daily until her death, which occurred on the 26th day of May following, about eight months later.

The pilocarpine seemed always to benefit, and the patient would plead for the hypodermics. They always relieved the nervousness,—probably by the elimination of urea, quieted and slowed the heart and gave ease and comfort. It is quite certain in this case, that while it did not avert the fatal issue, the use of the drug gave comfort, and prolonged life for many months.

HARVEIAN SOCIETY OF LONDON.

Meeting Held March 14th, 1889.

THE PRESIDENT, THOMAS BUZZARD, M.D.,
F.R.C.P., IN THE CHAIR.

ON PRE-CANCEROUS CONDITIONS OF THE TONGUE.

MR. BUTLIN in his paper dealt chiefly with three points: 1. The proportion of cases of cancer of the tongue in which the disease is preceded by a well-recognized pre-cancerous condition. 2. The relative importance of various pre-cancerous conditions. 3. The question of the early and

free removal of some pre-cancerous conditions. In a certain number of cases which had been under the care of the author, cancer of the tongue had been preceded by a pre-cancerous condition in at least 70 per cent. Warty growths appeared to be the most dangerous of the conditions which actually and immediately precede cancer, and these warty growths were shown to be more frequent than is generally believed. The question was raised whether it would not be right, in cases of leucoma and chronic superficial glossitis, in which warts and warty growths form on the surface of the tongue, to remove the whole of the diseased area of the tongue, or certainly the fore part of the tongue, instead of merely removing the warty growth and an area of the surrounding tissue. Two cases were related in which simple warty growths formed on leukomatous tongues, and were removed, and in which at a later period cancer developed, but not in the seat of the removal of the warts. The use of liquor arsenicalis internally was recommended in all cases of chronic affection of the surface of the tongue, in which the disease is associated with various forms of chronic affection of the general integument (non-specific). Several cases were related to show the advantage of the removal of early cancerous affections of the tongue.

MR. JACOBSON said that he thought the pre-cancerous conditions were better marked in the tongue than in any other part, unless it might be occasionally in the breast. Yet sufficient use was not yet made of the knowledge of these pre-cancerous stages to remove the disease before the advent of the malignant stage. He believed it was most important for general practitioners to recognize these conditions that they might advise their patients to be operated upon in time. Mr. Jacobson showed a patient who had syphilitic leucoma of the tongue, with constant rawness and a small spot of induration. This was recognized as pre-cancerous and the half of

the tongue removed. His speech now was but little affected. Mr. Jacobson strongly advocated the removal of one-half the tongue, and believed that the speech was always good after such an operation. Another patient was shown who had a pre-cancerous condition of the tongue, but declined operation for fear of interference with the practice of his profession as a player on a wind instrument. Mr. Jacobson had found it very difficult to persuade patients to be operated upon, unless they were convinced that the disease was actually cancerous. Mr. Jacobson also commented upon the pathological anatomy of these disorders. The affection was often latent for a time, but liable to sudden outbursts. Small operations gave rise to severe hæmorrhage which obscured the view of the operator and led to diseased portions being left behind.

MR. PICKERING PICK thought that in many cases chronic superficial glossitis in the various forms was a curable affection, and not every case required removal. He had found that the exhibition of arsenic in large doses was of remarkable use. At the same time the case must be watched carefully, and the disease removed freely on the slightest sign of epithelial change.

MR. BARKER agreed with Mr. Butlin in most points. He believed that leukoma once started was rarely recovered from. It might last a great number of years, but his experience was that it never changed except for the worst. For its relief he relied upon mild solvents, like carbonate of soda, which perhaps acted by rendering the secretions of the mouth less irritating, and promoted the exfoliation of epithelium. As long as the disease was pre-cancerous he would like to leave it alone, and remove it at the moment it became cancerous. He somewhat objected to the term pre-cancerous. As long as there was no induration, he thought the disease might be left alone, but the patient should be constantly watched by his medical adviser. Mr. Barker did

not approve of removing wedge-shaped portions. It was better to remove the tongue within reasonable limits. Special attention should be paid in the operation to the deep dissection by the side of the tongue where the lymphatics ran. Epithelioma of the tongue had a great power of diffusing itself. Mr. Barker was not in favor of removing the tongue by halves, for the remainder of the tongue in such cases got bound down by scars.

MR. PYE agreed with Mr. Barker as to partial removal. He asked whether it was not better to remove the whole tongue in cases of leukoma. However, he thought that the removed half of the tongue was not so bound down after partial removal as appeared to be the case. He also asked whether it were not possible to remove the superficial layer of the tongue when affected by leukoma.

MR. LOCKWOOD showed a specimen which exhibited leukoma and papilloma. Really pre-cancerous conditions might be partially removed, but true cancer should be removed as widely as possible.

DR. CLEVELAND remarked on the conditions which predispose to cancer. Smokers were particularly liable, and he related several cases illustrating this, where early recognition and operation resulted in cure.

DR. DREW asked whether ring-worm of the tongue was a pre-cancerous condition.

THE PRESIDENT asked whether ulcers or clefts in patients who had suffered from syphilis were to be distinguished accurately as syphilitic, and successfully treated by iodide of potassium. He had seen such an ulcer heal for a time under the use of the drug, and afterwards recur as cancer. He remarked that epileptics were prone to bite the tongue constantly on one side, and he asked whether this had been noted as a precedent of cancer.

MR. BUTLIN, in reply, said that there was undoubtedly a true syphilitic gummatous ulcer of the tongue which healed under iodide of potassium. He had seen a bite

excite cancer. He thought that the majority of cancers ulcerated unless they were covered by horny epithelium. He had only seen one case of leukoma absolutely recover, and that under the use of arsenic. He thought that leukoma and superficial glossitis predisposed to cancer, but patients might have such conditions for many years without cancer developing. The wart on a leukomatous base never gets well, and always becomes cancerous. He thought it dangerous to attempt to cut away the superficial layer of the tongue in leukoma.—*The Medical Press*, April 3, 1889.

BOOK REVIEWS.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE THROAT, NOSE AND NASO-PHARYNX. By CARL SEILER, M. D. Third edition, 12mo. Pp. xii., 373. Philadelphia: Lea Brothers & Co. 1889. Chicago: A. C. McClurg & Co.

Physicians who are familiar with the manual on Microscopical Technology by this author need not be told that this handbook is a good one. Many of the good qualities of the former are to be found in the latter. Few medical writers surpass this author in ability to make his meaning perfectly clear in few words, and in discrimination in selection, both of topics and of methods. In this handbook the methods described are his own, but whenever his instruments or ideas are borrowed he mentions their source, and gives ample credit to their originators. In this connection it is pertinent to observe that when he makes an alteration in an instrument he has a better reason than a simply vainglorious desire to attach his own name, along with the new device, to the instrument. A case in point is his attachment to the Jarvis snare, to be used in removing anterior nasal hypertrophies.

In addition to the points mentioned, what may be called the distinguishing features of the book are as follows: 1. A chapter on the physiology of the voice and articulate speech.

2. A blank form for records of cases, the use of which will facilitate taking a record of conditions and also insure thoroughness in observing and recording them.

3. The illustrations, many of which are new and quite unusually well drawn.

4. A chapter on hay-fever. The author, in common with many others, believes that the dis-

ease may be controlled, but he does not exactly agree with his illustrious fellow townsman, the editor of the *Annual of the Universal Medical Sciences*, as to the comparative value of the galvano-cautery, and of acids in the treatment of the lesion.

The author evidently never has himself been a sufferer with that form of chronic pharyngitis known as *p. sicca* or he would not dismiss it in so summary a way as he does.

The chromolithographic plates which are bound with the text illustrate well the imperfections and apparent limitations of that art.

The book deserves a large sale, especially among general practitioners, hackneyed though the phrase is. E. W.

SURGICAL BACTERIOLOGY. By NICHOLAS SENN, M.D., Ph.D., Professor of Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago. 8vo., pp. 270. Philadelphia: Lea Brothers & Company. 1889. Chicago: W. T. Keener.

The twenty-two chapters of this book are devoted to the following subjects: Hereditary transmission of microbic diseases; Do pathogenic microorganisms exist in the healthy body?; Sources of infection; Localization of microbes; Elimination of pathogenic microorganisms; Antagonism amongst microorganisms; Inflammation; Suppuration; Gangrene; Septicæmia; Pyæmia; Erysipelas; Erysipeloid; Noma; Tetanus; Tuberculosis; Anthrax; Glanders (*Malleus Humidis*); Actinomycosis hominis; Gonorrhoea; Syphilis; On the alleged microbic origin of tumors. Each one of these subjects is discussed with the care, minuteness, and exactness characteristic of all Dr. Senn's work. They that recognize the fact that surgical pathology is now almost synonymous with surgical bacteriology should not fail to study the book: others should study it and become convinced. It contains some well executed colored plates, reproduced from *Klebs' Lehrbuch der pathologischen Anatomie*.

INTESTINAL SURGERY. By N. SENN, M.D., Ph. D. 8vo. Pp. vii and 269. Price \$2.50. Chicago: W. T. Keener. 1889.

The limits of a book notice will not permit an adequate review of this volume, and this fact may excuse a quotation from the preface: "While the following pages are not intended to serve the purpose of a complete text-book on Intestinal Surgery, still the author hopes that they may contain some new facts and suggestions which will prove useful to those who practice this branch of surgery." "The first part of the book contains a résumé of the best literature on the

subject of intestinal obstruction which has been arranged in a systematic manner for ready reference." "The second part represents the author's own original work, made with special reference to the treatment of intestinal obstruction and the diagnosis of perforation of the intestinal canal; to which is added the report of three cases of gunshot wound of the abdomen, in which inflation with hydrogen gas proved a positive test in making a correct diagnosis, before the abdomen was opened. One of the principal objects in publishing these papers in book form is to stimulate the young men in our profession to enter the field of original investigation, as the author is firmly convinced that experimental research constitutes the shortest and safest route to the perfection of the principles and practice of intestinal surgery."

Those who are familiar with the author's style of work know what this volume must be, and those who are not, may be assured that it is eminently creditable to the author himself, and an honor to the cisatlantic branch of the medical profession.

THE INSANE IN FOREIGN COUNTRIES. By WILLIAM P. LETCHWORTH, President of the New York State Board of Charities. 8vo., pp. xii, 374. New York and London: G. P. Putnam's Sons. 1889.

It is a positive pleasure to notice this work. It is the outcome of an investigation of foreign charitable institutions, pursued without interruption for seven months, in which time special attention was given to the various kinds of provision made for the insane poor. Stenographic notes of visitations and interviews were made, and thus valuable opinions, expressed by distinguished specialists, with whom the treatment of the mentally diseased has been a life-long study, have been carefully noted. Mr. Letchworth has avoided medical theories and technicalities, and has presented the subject in plain language. Of the publishers' part, it is sufficient to say that the book comes from the Knickerbocker press, and is in that tasteful style for which the publishers are noted. It is well illustrated.

CLINICAL LECTURES ON DISEASES OF THE URINARY ORGANS, delivered at University College Hospital. By SIR HENRY THOMPSON. Eighth Edition. 8vo., pp. xiv., 470. Philadelphia: P. Blakiston, Son & Co. 1888. Chicago: W. T. Keener.

The first edition of this book, published twenty years ago, contained twelve lectures, the seventh edition twenty-six, and the present thirty-two. In the present edition the chief additions relate

to the supra-pubic operation for stone and for tumor, to the results of digital exploration of the bladder, to the recent modes of affording relief by operation in cases of advanced prostatic disease, to the latest operative treatment for tumors of the bladder, and embraces a *résumé* of the author's entire experience of operations for calculus, made up to the year 1886, numbering about 900 cases. All the material that was given in former editions has been thoroughly rewritten. The work has been translated into French, German, Italian, Spanish and Russian.

HAND-BOOK OF PHYSIOLOGY. By W. MORANT BAKER, F.R.C.S., late Lecturer on Physiology at St. Bartholomew's Hospital, etc., and VINCENT DORMER HARRIS, M.D., Demonstrator of Physiology at St. Bartholomew's Hospital, etc. Twelfth Edition, rearranged, revised and rewritten, with 500 illustrations. 8vo., pp. xi, 784. New York: William Wood & Company. 1889. Chicago: W. T. Keener.

This is the twelfth edition of the well-known Kirkes' Physiology, and contains a large amount of new matter, especially in the sections on the blood, the heart, and the muscular system, while the chapters on the nervous system, the reproductive organs, and on development have been rearranged, and to a great extent rewritten. Thus this popular work has been brought fully up to the present status of physiology. A work so well-known as this needs no further comment at our hands, especially when edited by such men as Mr. Baker and Dr. Harris.

THE OPERATIONS OF SURGERY. A Systematic Handbook for Practitioners, Students and Hospital Surgeons. By W. H. A. JACOBSON, F.R.C.S., Assistant Surgeon to Guy's Hospital, etc. With 199 illustrations. 8vo., pp. 1006. Philadelphia: P. Blakiston, Son & Co. 1889. Chicago: W. T. Keener.

This work is very comprehensive in scope and full in detail. The operations are well described and discussed as a rule, and the book may be commended as a safe guide to operative surgery.

A HANDBOOK OF THERAPEUTICS. By SIDNEY RINGER, M.D. Twelfth Edition. Pp. xi and 524. New York: William Wood & Co. 1889. Chicago: W. T. Keener.

A treatise which is so well and so favorably known as the subject of this notice needs no praise. The author states that in the preparation of this edition he has carefully revised every portion of it, and added much information both on new drugs and old. The plan is unchanged and it remains a work on clinical therapeutics of high value.

PAMPHLETS RECEIVED.

Diseases of the Nose and Pharynx and Their Treatment. By W. Cheatham, M.D.

Malaria and the Causation of Periodic Fever. By Henry B. Baker, M.D.

The Philosophy of Memory. By D. T. Smith, M.D.

The President's Annual Address. By Robert Battey, M.D.

On the Circular Polarizations of Certain Tartrate Solutions. I. By J. H. Long.

New Form of Posterior Colporrhaphy. By J. H. Kellogg, M.D.

Experimental Researches Respecting the Relation of Dress to Pelvic Disorders of Women. By J. H. Kellogg, M.D.

Report of Forty-eight Cases of Alexander's Operation. By J. H. Kellogg, M.D.

The Etiology of Dipsomania. By Lewis D. Mason, M.D.

The Radical Cure of Varicocele. By Morris H. Henry, M.A., M.D.

Extremes in Altitude in Southern California. By Walter Lindley, M.D.

Transactions of the American Otological Society. Vol. 4, Part 2. 1888.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States for the Fiscal Year 1888.

Pulmonary Consumption Considered as a Neurosis. By Thomas J. Mays, M.D.

Two Cases of Gunshot Wound of the Abdomen. By N. Senn, M.D.

Inflation of the Stomach with Hydrogen Gas in the Diagnosis of Wounds and Perforations of this Organ. By N. Senn, M.D.

The Failure of Dr. J. B. Thomas' Treatment of Urethral Stricture by Electrolysis. By Robert Newman, M.D.

The Treatment of Peritonitis by Abdominal Section. By L. S. McMurtry, M.D.

Case of Typhlitis with Double Perforation of the Cæcum, and Peritonitis. By L. S. McMurtry, M.D.

Electricity vs. Tait, or The Use of Electricity in Inflammations as Found in Gynecology. By George F. Hurlburt, M.D.

Preliminary Report of an Operation for the Formation of an Artificial Pupil through the Sclerotic Coat of the Eyeball. By George Strawbridge, M.D.

The Influence of Cocaine upon Ophthalmic Surgery. By Samuel Theobald, M.D.

On Some Mild Measures in the Treatment of Intra-Nasal Hypertrophies and Inflammations. By W. H. Daly, M.D.

Is Astigmatism a Factor in the Causation of Glaucoma? By Samuel Theobald, M.D.

The Histology and Surgical Treatment of Uterine Myoma. By Henry O. Marcy, M.D.

The Climate of the Southern Appalachians. By Henry O. Marcy, M.D.

Placental Development. By Henry O. Marcy, M.D.

The Case of the Emperor Frederick. Official Reports. By Henry Schweig, M.D.

The Anatomy and Pathology of the Thymus Gland. By A. Jacobi, M.D.

How Microorganisms Enter the Body. By George N. Kreider, M.D.

Femoral Osteotomy for the Correction of Deformity Resulting from Hip-Joint Disease. By Ap. Morgan Vance, M.D.

Cases in Orthopaedic Surgery. By Ap. Morgan Vance, M.D.

Pregnancy and Operative Surgery. By Louis McLain Tiffany, M.D.

Osteotomy for Anterior Curves of the Leg. By DeForrest Willard, M.D.

The Electrolytic Decomposition of Organic Tissues. By George H. Rohe, M.D.

Food vs. Bacilli in Consumption. By Ephraim Cutler, M. D., LL.D.

Pressure Forceps, vs. the Ligature and the Suture in Vaginal Hysterectomy. By E. C. Dudley, M.D.

Laparotomy for Ascites. By Thomas A. Ashby, M.D.

Pathology and Treatment of Alopecia Areata. By A. R. Robinson, M.B.

The Question of Relationship between Lichen Planus (Wilson) and Lichen Ruber (Hebra). By A. R. Robinson, M.B.

Binioidide of Mercury. Its Antiseptic Use. By Eugene P. Bernardy, M.D.

Intubation in Chronic Stenosis of the Larynx. By Joseph O. Dwyer, M.D.

Intubation of the Larynx in Diphtheritic Croup. By Dillon Brown, M.D.

The Science of Successful Surgery. By John B. Roberts, M.D.

Emergency Hospitals. By Hal C. Wyman, M. S., M.D.

Twenty-Eighth Annual Report of the Cincinnati Hospital. 1888.

MISCELLANY.

Seventh Decennial Convention for Revising the Pharmacopœia of the United States.

—Notice is hereby given that, in accordance with and by virtue of the authority vested

in me by the Convention of 1880, I hereby call upon the several incorporated Medical Societies, incorporated Medical Colleges, incorporated Colleges of Pharmacy, and incorporated Pharmaceutical Societies throughout the United States of America, The American Medical Association, and The American Pharmaceutical Association, to elect a number of delegates, not exceeding *three*, and upon the Surgeon-General of the Army, Surgeon-General of the Navy, and the Surgeon-General of the Marine Hospital Service to appoint, each, not exceeding *three* medical officers to attend a General Convention for the Revision and Publication of the Pharmacopœia of the United States of America, to assemble in the city of Washington, D. C., on the first Wednesday of May, 1890 (May 7th), at twelve o'clock noon.

The several bodies, as well as the Medical Departments of the Army, Navy and Marine Hospital Service, are hereby requested to submit the Pharmacopœia to a careful revision, and to transmit the result of their labors to the Committee of Revision at least three months before the meeting of the General Convention.

The several Medical and Pharmaceutical bodies are hereby requested to transmit to me, as the President of the Convention of 1880, the names and residences of their respective delegates, as soon as they shall have been appointed; a list of these delegates shall thereupon be published under my authority, for the information of the medical public, in the newspapers and medical journals in the month of March, 1890.

In the event of the death, resignation or inability of the President of the Convention of 1880 to act, these duties (in accordance with the Resolution of that Convention) shall devolve, successively, in the following order of precedence: upon the Vice-Presidents, the Secretary, the Asst. Secretary, and the Chairman of the Committee of

Revision and Publication of the Pharmacopœia.

These officers are as follows: *First Vice-President*, Samuel C. Busey, M. D., of Washington, D. C.; *Second Vice-President*, P. W. Bedford, Ph. G., of New York; *Secretary*, Frederick A. Castle, M. D., of New York; *Assistant Secretary*, C. H. A. Kleinschmidt, M. D., of Washington, D. C.; *Chairman of the Committee of Revision*, Charles Rice, Ph. D., of New York; *First Vice-Chairman of the Committee of Revision*, Joseph P. Remington, Ph. M., of Philadelphia, Pa.; *Second Vice-Chairman of the Committee of Revision*, C. Lewis Diehl, Ph. G., of Louisville, Ky.

At the General Convention held in Washington, D. C., on the fifth day of May, 1880, the organizations and bodies enumerated in the Abstract of the Proceedings of the National Convention of 1880, on pp. xv. to xviii. of the U. S. Pharmacopœia of 1882, were recognized as being entitled to representation.

If any body other than those admitted in 1880 shall desire a representation in the Convention of 1890, it is suggested that the proof of incorporation, signed by the Secretary of State, of the State which shall have issued the charter, or by properly qualified public officials of the United States, be presented with the credentials of the delegation.

A blank form of certificate of appointment of delegates will be sent upon application by letter to my address, care of Dr. Edwin H. Brigham, Assistant Librarian of the Boston Medical Library, 19 Boylston Place, Boston, Mass.

(Signed) ROBERT AMORY,

President of the Convention of 1880.
Boston, March 9th, 1889.

The Death of Professor Donders, the celebrated Professor of Physiology in the University of Utrecht, the latter part of March, removes a man whose name and labors were known throughout the civilized

world. He was born at Tilburg in 1818. In 1848 he took up the special study of the then new science of ophthalmology, and in 1851 founded the first hospital for the treatment of diseases of the eye in Holland. Since that time he has published a great deal on the diseases of the eye. His resignation from his chair last year was made the occasion of a ceremonial, when \$15,000 was presented to him by his pupils and admirers. This sum he generously devoted to the establishment of scholarships in physiological and ophthalmological science.

The Illinois State Medical Society will hold its next annual meeting in Jacksonville on the third Tuesday in May. It will be an important meeting in many respects, and there should be a full attendance of the members.

Dr. T. M. Cullimore, Assistant Secretary, furnishes the following list of railroads which have agreed to sell tickets for one-third fare in returning, to those who paid full fare in going to the meeting:

Chicago and Alton Railway.

Chicago and Northwestern Railway.

Chicago, Burlington and Northern Railway.

Chicago, Burlington and Quincy Railway.

Chicago, Milwaukee and St. Paul Railway.

Chicago, Rock Island and Pacific Railway.

Chicago, St. Paul and Kansas Railway.

Chicago, Santa Fe and California Railway.

Illinois Central Railway.

Rock Island and Peoria Railway.

Wisconsin Central Lines Railway.

Wabash Railway.

Jacksonville Southeastern Railway.

Bacteria and Books.—A good deal of discussion has been going on as to whether books may convey pathogenic bacteria. Recent researches at Dresden tend to show

that pathogenic bacilli are not capable of living in or on books for any length of time. The details of the experiments have not been published. Meanwhile, it is probably best to assume that books may be "inoculated" by persons suffering with infectious diseases.

The Annual Meeting of the National Association of Railway Surgeons will be held at St. Louis, Mo., on Thursday and Friday, May the 2d and 3d, 1889. The prospects are that this will be one among the largest gatherings of medical men ever assembled in this country. Dr. W. B. Outten, of St. Louis, is the Chairman of the Committee of Arrangements, and everything will be complete for the accommodation of the surgeons. Any information desired can be had by addressing the Secretary, C. B. Stemen, M.D., Fort Wayne, Ind.

The American Medical Association will hold its fortieth annual meeting at Newport, R. I., on June 25, 26, 27, and 28, 1889. From reports already published by the Secretaries of the Sections, the meeting promises to be one of unusual interest. The general addresses will be delivered by Professors William Pepper of Philadelphia, Wm. H. Welch of Baltimore, and P. S. Conner of Cincinnati.

The Death of Dr. C. J. B. Williams, at the age of 84, is announced. He retired from practice in 1875, but previous to that time was one of the best known and most eminent of British physicians. He may be regarded as the one that really introduced cod-liver oil as a means of treating consumption.

An International Congress of Otology and Laryngology is to be held in Paris, France, during the International Exposition of this year. The date of the proposed Congress is from the 16th to 21st of September. The Trocadéro palace is to be the place of meeting.

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***EPICYSTIC SURGICAL FISTULA FOR
CYSTOSCOPIC EXPLORATION;
INTRAVESICAL TREATMENT
AND DRAINAGE.¹***

BY JOHN D. S. DAVIS, M.D.,
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Epicystotomy has become an established and frequently practiced procedure, and the dangers incident to opening the bladder through the abdominal wall is so slight that patients suffering from almost any vesical trouble are encouraged to have the bladder opened for diagnostic purposes and treatment at a time when the general health remains unimpaired; a practice which, a few years ago, would not have been resorted to by the most aggressive surgeon.

Catarrh of the bladder, irrespective of its cause, is always followed by a series of consecutive pathological changes which, independently of the partial or complete interruption of the passage of the urine, tend to destroy life. A dilatation of the bladder and ureters by retention of urine may give rise to such a degree of distention as to destroy life from suspension of important functions by mechanical pressure. During the stage of inflammation a parietic condition may occur, the blood-vessels in the vesical wall lose their support, and transudation and exudation take place into the paravasculature tissue, which, combined

with capillary stasis attending this stage of the disease, results in sloughing, infiltration, pyæmia, peritonitis and death. The damming up of the urine may, and does often, cause surgical-kidney, epididymitis and tetanus.

The treatment of chronic vesical catarrh resolves itself into a consideration of the causes producing the disease, many of which, the presence in excess of certain inorganic constituents of the urine, stone, stricture and hypertrophy, are capable of correction; whilst others—such as malignant tumors and certain conditions of the prostate—may only admit of a palliation of the symptoms to which they give rise and the removal of which must be the first object in treatment. But when a parietic condition of the bladder exists provision must be made for the complete continuous emptying of the viscus; its thorough cleansing by frequent irrigation with hot sterilized water; and the promotion of a healthy tone in the mucous membrane and muscular structure of the bladder. The frequent introduction of catheters for drawing off residual urine and washing out the bladder has been productive of much harm, and, instead of giving relief, proved to be, by reason of their frequent introduction into the inflamed bladder to draw off the urine two or three times a day, a source of immediate and alarming symptoms. These facts are cogent reasons for adopting surgical

¹ Read before the State Medical Association of Alabama, April 11, 1889.

means in all cases of intra vesical troubles as soon as a diagnosis can be made, and often when it cannot otherwise be made, for the complete emptying of the bladder, thorough cleansing, diagnosis, and intra-vesical treatment.

The epicystic surgical fistula is designed for drainage, introvesical treatment, and cystoscopic exploration, and may be divided for consideration under the following heads:

I. Definition of epicystic surgical fistula.

II. Surgical resources in the formation of the epicystic surgical fistula.

1. Preparation for the operation.
2. Anæsthesia.
3. Position.
4. Incision and opening bladder.
5. Intra-vesical exploration and treatment.
6. Toilette and after treatment.

III. Advantages of the epicystic surgical fistula.

1. Cystoscopic exploration.
2. Intra-vesical treatment.
3. Drainage.

I.—DEFINITION OF EPICYSTIC SURGICAL FISTULA.

Epicystic Surgical Fistula is the title here given to a supra-pubic fistula into the bladder created by the surgeon for exploration, intra-vesical treatment and drainage. A fistula, which, acting as an artificial urethra, is capable of giving free access to the inside of the bladder for cystoscopic exploration, to provide a ready, convenient and comfortable means of emptying the bladder at will, and gives the surgeon a competent opening into the viscus for intra-vesical applications.

It constitutes an essential element in the speedy and complete evacuation of the contents of the bladder in all epicystic operations, and imitates nature in the restoration of its own continuity and repair

as the pathological changes within the bladder subside.

II.—SURGICAL RESOURCES IN THE FORMATION OF THE EPICYSTIC FISTULA.

(1). *Preparation for the operation.*—

The presence of two assistants, though not necessary, may be of valuable aid. A temperature of 80° or 85° Fah. should be maintained in the operating room from the beginning to the end of the operation. All hair is to be shaved from the pubis and all the details of antiseptic surgery are to be carried out so far as cleaning the pubis and abdomen. The bladder is emptied and thoroughly washed with warm water. When the water returns clean the bladder is slowly distended with warm sterilized water thrown into the bladder by means of a fountain syringe, with nozzle in urethra—a degree of pressure sufficient to distend the bladder to its utmost capacity—which can never be too great for the resistance of the bladder. It is better to fail in filling the bladder than to distend the bladder beyond the limit of competency. Indeed it is not necessary to fill the bladder to any degree of resistance. I have operated when the bladder was in an irritable condition and would not tolerate distention greater than the capacity of two ounces, and had no difficulty in avoiding the pre-vesical fold of peritonæum or finding the bladder. The water is secured in the bladder by tying the penis at the base with a rubber tube.

A colpeurynter is next to be well oiled and inserted into the rectum—the rectum having been previously emptied by enema—and filled with warm water. This distention brings the bladder into view above the pubis.

(2). *Anæsthesia.*—My preference for chloroform is the result of my own personal experience with it. It is not free from objections, as its depressing effect upon the heart is well known. The operation usually occupies fifteen minutes; and,

hence, its prolonged use would be unnecessary and uncalled for. The objection to ether is the suppression of the excretions and the frequency with which bronchitis is produced when administered to persons advanced in years. The best course to pursue, when the operation is prolonged, is to follow the use of chloroform by ether. The patient must be kept profoundly under the influence of the anæsthetic from the first incision until the superficial wound is closed.

(3). *Position*.—The patient is placed on the back on an ordinary operating table with the legs extended as if in a position for perfect comfort and rest. Many surgeons claim advantages in the position recommended by Trendelenburg. Eigenbrodt emphasizes the fact¹ that the elevation of the pelvis in Trendelenburg's position² helps the surgeon to avoid the prevesical peritoneal fold at the time of the incision of the bladder.

I have employed this posture for intro-vesical operation by means of the suprapubic incision with no advantage over the ordinary flat-back position. With two openings in the bladder for a continuous stream of clear water I have no trouble in illuminating every part of the bladder with the electric surgical light and thus enabled to examine the entire intravesical wall. Undoubtedly the position recommended by Trendelenburg possesses advantages which, to the author more than myself, makes it highly ideal. As for myself I prefer and recommend the flat-back position.

(4). *Incision and opening bladder*.—A perpendicular incision three or four inches long is made in the median line above the symphysis pubis. The recti muscles are

separated to symphysis. If the pyramidalis are in the way, the fibres should be cut. The transversalis fascia is divided on a grooved director from symphysis to within one inch of upper margin of superficial wound. Instead of following Guyon's maneuver, I catch the bladder with a tenaculum on a line with the symphysis, through the prevesical fat, and cut through with a bladder knife into the bladder with one smooth, clean incision, to prevent undue disturbance of the cellulo-adipose tissue between the bladder and pubis, and avoid infiltration. I have never seen a case where it was necessary to put up the pre-vesical fat, and with it the peritoneal cul-de-sac. If the bladder is caught on a line with the symphysis and cut downwards, no fears need be had for the peritonæum. Cutting this prevesical fat prevents its after dropping down over the opening into the bladder and acting as a valve to prevent easy escape of urine and causing infiltration. And, too, such a procedure gives a smooth incision throughout, and it is almost impossible to have infiltration, even when no drainage tube is left in the bladder and the urine is left to flow out through the fistulous track and taken up by a layer of absorbent cotton. In making the incision into the bladder, no attention is to be paid to any vein or veins which are sometimes met with. If cut, they will stop bleeding when the bladder is dropped back and the rectal bag removed. The operation is usually bloodless in the sense of hæmorrhage. I have operated without the patient losing more than one drachm of blood.

(5). *Intra-vesical exploration and treatment*.—The finger is carried into the bladder and a thorough search made for any tumors, villous growths, or foreign bodies. The bladder is now emptied and the rubber around penis untied and the bladder well washed out with hot sterilized water. The bladder can now be examined with the cystoscope and surgeon's electric light. If tumors be found, if practicable they

¹ L. c., p. 72. Cf. Lang, Med. News, Dec. 4, 1888.

² In Trendelenburg's position the patient's legs are held over the shoulders of an assistant with the body resting on an incline table, much in the position which hogs are swung for spaying.

should be removed; villous growths and any foreign body found should be removed. If nothing is found in the bladder, the surgical fistula, in the absence of malignancy, will be all that is required to relieve the cystitis.

(6). *Toilette and after treatment.*—The bladder is allowed to drop back into the pelvis and the superficial wound so closed by two sutures (including the skin and superficial fascia only) in the lower portion of the incision and one in the upper portion of the incision, as to leave a fistulous track of equal size from bladder to juncture of upper third and middle third of the superficial incision. A large rubber catheter is now to be introduced into the bladder through the opening and its distal extremity allowed to enter a urinal placed in the bed between the patient's thighs, or preferably at the patient's side. Professor F. Trendelenburg, director of the surgical clinic of the University of Bonn, proposed, for draining the bladder in supra-pubic lithotomy, the T-tube in latero-abdominal position and open wound treatment as the simplest, safest and best. He makes an antiseptic dressing of iodoform gauze around the T-tube. There can be no real necessity for a tube of any kind to be introduced into the bladder for the purpose of conveying the urine from the bladder to prevent infiltration, irritation of superficial fascia and soiling of dressings.

If the urine is kept acid, by the administration of citric acid or some other more palatable acid drink, no better antiseptic than the acid urine can be secured for the constant bath of the parts. It should be allowed to flow out through the wound and absorbed by a pad of absorbent cotton placed loosely over the wound, and removed as often as soiled by the outflowing urine. By this method of emptying the bladder, no possible small amount of urine can be impeded in its outflow, which is the case around and outside of the tube, when catheter or tube is left in for any length of

time—a source of no little annoyance at times. This little collected or retained urine, around the outside of the tube alone, I have seen produce a hard chill and elevation of temperature, and become for the time an immediate, alarming and aggravating source of trouble. I never have seen the skin made sore or chafed by the outflowing urine in epicystotomy, or from its after escape through the surgical fistula.

The bladder should be washed out twice daily with hot sterilized water, by means of a fountain syringe, with its nozzle introduced into the urethra, the water escaping through the epicystic fistula and guided into a bed-pan under the patient. The superficial stitches are taken out at the end of a week, and intermittent catheterization by the fistula is then resorted to for the sole purpose of training the fistula and prevent its rapid closure. It is not necessary to catheterize for the purpose solely of drawing off the urine. In one case I never drew the urine save for the purpose of analysis, but occasionally introduced a rubber bougie to prevent the closure of the fistula. The drainage by the fistula alone is admirable, and the fistula will be well formed in twenty or thirty days, competent to retain urine without dripping and to allow its escape in a good projecting stream at will. With no tearing of the tissues, and, with a clean cut, the drainage is perfect and the dangers are *nil*.

III.—ADVANTAGES OF THE EPICYSTIC SURGICAL FISTULA.

(1). *Cystoscopic exploration.*—Nitze has by means of the cystoscope been enabled to diagnose tumors of the bladder in nine cases in which rectal palpation, the sound and other means had furnished negative results. One of the great difficulties in the cystoscopic exploration of the bladder is the presence of pus, mucus, and sometimes blood, which renders it exceedingly difficult to maintain a translucency of the fluid used to distend the bladder.

By means of a simple fountain syringe a constant current of clear water may be kept within the bladder so essential to a complete observation of the trigonum Lieutaudii, the most interesting part of the viscus, the ureters; and to examine any affection of that viscus. The fistula may be made for temporary purposes of cystoscopy by the Peterson-Guyon-Perier operation; but I can see great advantages from a different operation, by Dr. Hunter McGuire, the object of which tends to eliminate as well as detect the trouble within the viscus; and, too, in the final construction of a permanent fistula, gives an easy after-method of exploration, and makes a better artificial method by reason of its length and extension upwards of two to three inches. Diagnostic purposes are met by the possibility of immediate detection of all local conditions, such as tumors, calculi, foreign bodies, neoplasms, the collection of fluids from the ureters, etc.

(2). *Intra-vesical treatment.*—Having by means of the epicystic exploration revealed the true nature of the intra-vesical trouble, the treatment resolves itself into the immediate necessities of the case. For instance, prostatectomy may be necessary, villus papilloma may be found and should be remedied; pedunculated growths may be found which should be removed by the scissors or Paquelin's cautery, etc. In such cases, the opening in the bladder sufficient to introduce the finger, should be enlarged downwards under the symphysis pubis and the operation indicated should at once be performed. The object of the formation of the permanent surgical fistula is to meet the after-indications in such operations, the details of which does not properly come within the province of this discussion. However, it is sufficient to state, what is reasonable and practicable, that a better means by which the intra-vesical wall can be reached and treated therapeutically has not yet been devised.

(3). *Drainage.*—Permanent after-drain-

age in all intra-vesical operations can not be necessary; but is highly essential to secure good and sufficient drainage until the paravascular tissue is disengorged, the cystitis is relieved and the urine becomes normal and passes per urethra unobstructed. And until this end is attained complete artificial arrangement for the escape of the contents of the viscus must be made. In such cases of prostatic hypertrophy or malignant growths when removal of the obstruction is impossible or contra-indicated, the epicystic surgical fistula is clearly indicated and essentially necessary. It meets every possible indication for local treatment and gives the only controllable, ready and free drainage to viscus and kidneys. Urinary back-pressure as the result of incompetency of the urethra from the various immovable prostatic troubles is often an immediate and remote cause of surgical-kindey, which can only be removed or relieved by supra-pubic drainage. In conditions of the bladder, of long standing cystitis as in the case reported by me in the *Virginia Medical Monthly*,¹ in which the urethra, though made competent by cutting, was not sufficient to keep the bladder emptied without catheterization—a procedure which kept up a constant vesical inflammation, which, combined with capillary stasis attending the inflammatory process, resulted in paresis.

I now have the pleasure of introducing that case, Mr. T. A. Nixon, to you, fifty-eight days after the operation. His condition to-day is sufficient guarantee for all I have said in favoring the formation of an epicystic surgical fistula for the relief of chronic vesical catarrh. The result in this case is more than I promised. He can retain his urine several hours and without dripping of urine or pain to bladder. Urine completely under control and bladder relieved of pain.

¹ *Virginia Medical Monthly*, April, 1889.
Alabama Medical and Surgical Age, April, 1889.
New York Medical Journal, April 13th, 1889.

TWO CASES IN WHICH LITHOLAPAXY WAS IMPOSSIBLE.

BY EDMUND ANDREWS, M. D., LL.D.,

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The operation of litholapaxy is applicable to almost all adult cases of vesical calculus, yet a few instances occur in which it cannot be performed, of which the following cases are examples:

Case 1.—This patient was aged 23 years, and somewhat broken in health by the cystitis caused by his calculus. The urine, however, was free from any signs of sugar or kidney casts, and showed only so much albumen as might come from the pus formed in the bladder. Bimanual examination showed no enlargement nor tenderness of the kidneys, so that in spite of the discovery of a very large stone in the bladder, and of the presence of a good deal of cystitis, he was not in a desperately bad constitutional condition. I prepared him for litholapaxy by washing out the bladder for two days with antiseptics, and giving quinine freely.

The rectum having been emptied, the patient was anæsthetized, and again sounded. The stone lay back close to the rectum, and the bladder was deformed by the presence of an inflammatory mass in front, pressing the anterior wall backward. After filling the bladder with warm carbolized water and introducing a lithotrite of large size, I found that the jaws had to be spread very widely to seize the stone, and when force was applied they slipped off without breaking it. Many repetitions all ended in the same way. The jaws would not hold, no matter on what side they seized the calculus. Litholapaxy was impossible, and I was compelled to desist and to perform supra-pubic lithotomy instead. The pubis being shaved and disinfected, I introduced into the bladder the French instrument called the *sonde à dard*, which is a long and large canula, having the shape of a silver catheter, but carrying in its interior a curved steel dart with a

groove on its anterior surface. The object is to insert the instrument enclosing the dart and press its tip against the front of the bladder close to the top of the pubis so that it can be felt with the finger in the bottom of the primary incision, and then to protrude the point of the dart through the bladder into the external wound, and finally enlarge the puncture by using the dart as a grooved director, and sliding a bistoury along it into the bladder.

The instrument was a total failure in this case. The chronic inflammation of the viscus had extended through the front wall of the bladder and developed a thick mass of indurated cellular tissue through which the sound could not be felt. Even the sharp dart could not be made to pierce it. The *sonde à dard* failed as completely as the lithotrite had done, and the incision was therefore carried down in the ordinary way with the scalpel alone, and the cavity with the stone in it was at last reached well down against the rectum, after a dissection of alarming depth. The stone was then extracted without very great difficulty, though I was compelled to enlarge the wound considerably, on account of the great size of the calculus. It measured over three inches in diameter. On trying the lithotrite upon it outside the body, the reason of the failure of that instrument to bite through it was obvious. The jaws of even the largest lithotrite are too short to grasp the center of a stone three inches in diameter. The tips of the beaks catch feebly on the sloping sides, and instantly slip off without breaking the stone.

The wound was dressed antiseptically and without sutures. It healed pretty rapidly, considering its large size, and the patient recovered without any dangerous symptoms.

Case 2.—A boy 17 years of age had a stone of about an inch and a quarter in diameter, which proved to be composed of calcium oxalate. The usual preparations were made for litholapaxy, and the patient

placed on the table and etherized. On seizing the stone it was found excessively hard, and resisted the utmost strength of my hands in trying to break it. As the instrument was made by one of the very best Eastern makers, and I had tested it on pieces of hard brick when I bought it, I had great confidence in its strength. I therefore requested my assistant to grasp the handle of the female blade and hold it firmly with both hands, while I turned with the strength of both my own hands on the male blade, thus doubling the power. At first we effected nothing, but a little later, as we put forth our whole strength, there came a sound of a smothered metallic clink from within. I immediately loosened the grip and shook the stone loose from the jaws, and then discovered that the blades were held apart, and for some time could not be closed. However, after repeated trials the jaws closed together and I drew the instrument out. The female blade was found cracked half across, about two inches from the inner end, and a slight spring of the broken edge inward was what caught the male blade and prevented the closure. It was an awkward situation, for the instrument could not be drawn out with the jaws open, and had I been totally unable to close them, I should have been obliged to open the bladder widely through the perineum, pry the jaws downward through the wound and send for a mechanic to file off the shank, as in no other way could the instrument be gotten out.

My mental equanimity, therefore, was greatly promoted by the closure of the jaws, and I set to work very cheerfully to perform lateral lithotomy in the usual manner, removing without difficulty the hardest stone I ever met. I at first fancied I should find some metallic object in it as a nucleus, but on sawing it open, I found nothing but the usual blackish oxalate to the center.

The patient recovered without the slightest unfavorable symptom.

The moral of the tale is this, that however well an instrument of this sort may be constructed, it is not safe to apply the force of two strong men to the twisting of its handles.

I think, however, that a special lithotrite could be constructed for these rare cases, with a larger shank, and with jaws a little deeper from back to front, which would break the hardest calculus, unless it were accreted on a piece of iron or steel for a nucleus. It would also be necessary to increase the power, either by giving the thread of the screw a lower pitch or increasing the diameter of the handles.

NO 6 SIXTEENTH STREET.

EXTRACTS AND ABSTRACTS.

The Treatment of Confirmed Catheter Life by a Permanent Perineal Opening.—

WALTER WHITEHEAD, F.R.C.S. Edin., Surgeon Royal Infirmary, Manchester, in a paper read before the Medical Society of London, March 14th, 1889, said:

I am quite aware that I am treading very closely upon the heels of those who have recently and very ably brought before the notice of this Society matter kindred in character to the subject of my communication, but I intend, so far as the interest of my subject will permit, to avoid going over any of the ground traversed on previous occasions.

My immediate object this evening is to submit for your consideration a plan which I have for some years found to be effectual, and I believe to be novel, in the treatment of men suffering from enlarged prostate who have not only arrived at catheter life, but have advanced to the stage when all prospects of their ever again being able to pass urine in the natural manner have to be abandoned as hopeless.

In these cases, Sir Henry Thompson, the veteran pioneer of all that relates to bladder surgery, advocates one of two plans: either the permanent retention of a tube

through an opening established in the bladder above the pubes; or the plan of suspending the action of the bladder from seven to ten days by the temporary maintenance of a drainage-tube through the perineum. By the latter plan, he says, speaking of one case, "the relief was immediate and most remarkable," but he is compelled to admit that in every instance the patients have had sooner or later to resume their original practice of passing the catheter.

From Mr. Reginald Harrison's admirable Lettsomian lectures, I gather that he is in favor of drainage from the perineum. Previously we had those who were successful in many cases in relieving their patients by the constant use of retained catheters. As an alternative plan of treatment, we have also prostatotomy and prostatectomy, and more recently the suprapubic prostatectomy of Mr. McGill. Each of these plans appears to have fulfilled to a certain extent the purpose for which it was designed, but not one of them embraces the entire condition, or provides all that is desired in confirmed prostatic obstruction. For instance, the high outlet of a suprapubic opening leaves that particular part of the bladder which most requires drainage more remote than ever from the benefit of treatment. The perpetual presence of a perineal drain-tube is even less tolerable than a retained catheter, and a retained catheter can only be borne by a limited number of those who might otherwise be benefited by its use, and it is questionable whether the presence of these tubes does not as a rule aggravate the mischief and shorten life.

Mr. Harrison is singular, I believe, in the view he entertains that the prostate undergoes a diminution in size owing to the influence of the prolonged retention of a tube, and I am not aware that he claims to have had more than one case where the benefit from this plan has been more than partial and temporary.

Perineal prostatectomy appears to me an operation without any of the advantages of precision. You can neither regulate the amount, nor define the limits, of what you remove, and there is always the possibility that an undue mass may be taken away and permanent incontinence result.

McGill's suprapubic prostatectomy has, at least, the merit of affording the operator an opportunity of seeing the overgrowths, which project into the bladder, *in situ*, but it affords no facilities for the removal of those growths which are confined to other portions of the prostate. The results of the cases reported by Mr. McGill were most excellent, but the number was small, and the conditions under which they were operated upon were exceptional. The mortality of suprapubic cystotomy in men over 50, it must be remembered, amounts to over 33 per cent., and this mortality is not likely, in the long run, to be lessened by the additional risk which must necessarily attend prostatectomy.

About six years ago I was more than ever impressed with the desirability of avoiding the pain and inconvenience which attend the constant passage of catheters; and I also became more familiar about this time with the facility with which a bladder could be entered for the purpose of digital exploration, and the idea occurred to me that at least three most important desiderata might be attained by a perineal urethrotomy. The bladder could be drained, it could be given necessary rest, and a considerable length of urethra would be relieved from the irritation of repeated catheterism. In consequence of the relapses which almost invariably followed the closure of the perineal wound and the re-establishment of the *status quo*. I further decided to maintain permanently the direct passage through the perineum. In the conception of this operation advantage was taken of the fact, which had been generally overlooked, that an opening in the mem-

branous urethra does not involve, as many suppose, incontinence of urine.

I am aware that there are numerous instances on record where, after perineal cystotomy, the wounds have failed to heal, and a permanent fistula has remained; but in these cases the fistulæ have been accidental, and never, to my knowledge, have they been claimed as the result of a deliberate intention on the part of the operator. And, further, a perineal fistula in itself would afford no advantage; but if the fistula is made, and utilized in the manner I have to propose, then it becomes the key to the difficulty which attends the treatment of prostatic enlargement. I will now proceed, in the first place, to describe to you the operation itself, which differs in no essential detail from an ordinary median urethrotomy. A staff is passed into a previously moderately distended bladder. A lithotomy-knife, with the edge upwards, is plunged directly into the groove of the staff from a point an inch above the anus to a point a little in front of the prostatic apex. I prefer to enlarge the skin incision as I withdraw the knife, leaving the external wound, when finished, about an inch in length, and directed from the raphé toward the center of the space between the anus and the left tuber ischii. As the staff is withdrawn the finger is passed into the bladder when possible, and the opportunity is taken of making a digital exploration. When nothing is discovered admitting of immediate operation, the tube I have been at some pains in getting made to my satisfaction is introduced and maintained by a T-bandage, which I have found quite as effectual and much more comfortable to the patient than tapes. My preference for enlarging the external wound by one sweep of the knife during its withdrawal, in the place of cutting down on the staff by repeated incisions, is to secure a clean section and thus avoid an irregular wound, which gives greater facilities for the lodgment of discharges. The limited space between

the point where the knife first enters the urethra and the rectum does not afford sufficient room for a wound which is required to remain permanent unless the incision be made obliquely in the manner described. The original opening in the skin should be made large enough at first, as it will then last for years without the necessity of dilating; but, if made too small, it may require enlargement within a few weeks of the operation. This, though a small matter to the surgeon, is generally a subject of considerable concern to the patient. It is the cicatricial contraction of the skin, and not of the deeper parts, which gives rise to this trouble.

Having obtained a short and wide passage of communication with the bladder, through which we experience no difficulty either in withdrawing the urine or in frequently injecting, with force and volume, large quantities of fluid, our next desire is generally to subdue the cystitis which usually exists, in as expeditious a manner as possible, and for this purpose there is nothing, as a rule, more simple or effectual than hot water. In order that this should be successful, the temperature should be gradually increased up to 120° F. Most patients can be induced by degrees to tolerate such a heat with comfort, and the higher the temperature, the greater the sedative effect.

There is nothing to be gained by using drugs simply for their germicide properties. What we require is something to scour from the tender mucous membrane every drop and particle of irritating matter. I have found creolin to excel every other drug in concealing, if not correcting, the putrid smell of some urines, and if the urine is loaded with tenacious viscid mucus, hot solutions of sea-salt appear to answer best.

One of the few drugs I have found of undoubted benefit in cystitis is the oxy muriate of bismuth. I was induced to try it from its well-known sedative influence

upon the inflamed urethra. The plan of using it is to introduce a drachm, well agitated in four ounces of hot water, after the bladder has been thoroughly washed out. The ponderous character of the bismuth causes that which does not adhere to the mucous membrane to precipitate behind the prostate. Patients invariably express their satisfaction at the comfort they derive from this treatment. They state that the desire to micturate is not so frequent, and that the reflex pain along the urethra is diminished. It is necessary to remove the whole of the bismuth by irrigation before administering a second dose, as the bismuth undergoes chemical changes in the bladder, being most probably converted into a sulphide possessing no known therapeutic advantages.

I will now very briefly mention the particulars of three cases I have treated in this manner. I could supplement them with others were it desirable, some in which the results have been equally satisfactory, and others where the benefits have been limited to giving relief in hopeless cases during the last few weeks preceding death.

One of my earliest cases was a merchant, J. S., now 70 years old. I operated upon him in November, 1884, after he had been suffering for ten years from enlarged prostate and cystitis. He had all the usual symptoms in an aggravated form, and was compelled to abandon his business. The operation was perfectly successful, and he made a rapid convalescence. I lost sight of him for a number of years, owing to his removing out of town to reside in one of the suburbs. Within the last month I was successful in again finding him, and he reports himself as being quite cured, free from all discomfort, can retain his urine four hours, and attend to business and the Exchange regularly. He continues to withdraw his urine through his perineal aperture; and the urine is normal in every respect.

The next case I wish to mention is a very

typical one, and will, I think, clearly illustrate all the features and advantages of the operation. Last June I was consulted by a gentleman, aged 63, who had suffered from symptoms of enlarged prostate for eight years. He was passing muco-purulent urine almost every quarter of an hour, night and day, and his general health was rapidly giving way under the constant suffering and loss of sleep. Being averse to any operation, he struggled against fate for five months, hoping against hope, and washing out his bladder with every possible solution until the climax came and he had to surrender. The catheterism became intolerable, and the urine, in addition to the pus, was rarely free from blood, and had a putrid odor.

In November I performed perineal urethrotomy, and introduced a full sized india-rubber tube, which was removed at the end of three weeks. I may here remark that when the tube was removed a globular phosphatic concretion, the size of a marble, had formed at the end of it, and caused considerable laceration of the passage in its removal, showing the desirability in highly phosphatic urines of removing the tube at short intervals. From the day of the operation the bladder was washed out with a hot solution of boroglyceride every four hours, night and day, and after the tube was removed the same practice was continued through a No. 12 soft india-rubber catheter passed every four hours through the perineal wound. The effect of the operation was immediate and really magical. The pain disappeared, sleep returned, and in six weeks he could retain his water for five hours. Now he can go about and visit his friends, having perfect confidence in the capacity of his bladder and the integrity of his sphincter. His urine is clear and free from albumen.

The last case I shall refer to is interesting, as it illustrates the application of the treatment in a somewhat different condition of the bladder.

In September of 1885 I saw with Mr. White, of Warrington, a young gentleman, aged 22, suffering from what at first appeared to be an acute attack of cystitis, but which subsequently was supposed to be an instance of periprostic abscess, bursting in the bladder. For twelve months he was treated on a regular system of bladder-irrigation through a catheter, but after a few months the urethra became so tender that smaller and smaller catheters had to be substituted, until eventually he expressed his inability any longer to stand the suffering the catheters caused him. In August, 1887, I performed perineal urethrotomy, and, at the same time, took the opportunity of exploring the bladder. The supposed condition was confirmed, a large abscess cavity opening into the base of the bladder on the left hand side being discovered. From this time (upwards of two years ago) the bladder has been regularly washed out every four hours through the perineal wound by means of a Bigelow's No. 17 catheter and a twenty-ounce brass syringe. In the intervals of the washing, the patient can retain his urine without the slightest inconvenience, and he is now in the habit of driving about, and capable of attending to business. The quantity of pus is slowly but certainly diminishing, and there still remains reasonable prospect of the abscess cavity eventually closing.

I may also mention that I have also adopted the operation with success in some cases of persistent hæmaturia of obscure origin.

The advantages of the operation are, in the first place, to enable the bladder to be completely relieved of its contents whenever desirable, and by this means to derive all the benefits of physiological rest. Secondly, it provides a channel through which we can substitute a thorough for an imperfect system of washing out the bladder, the elasticity of the membranous urethra permitting the introduction of a larger catheter than the penile urethra will

admit. The size of the catheter admits a greater and more forcible volume of fluid to be used for irrigation purposes, by which means we can more effectually dislodge the adherent mucus, and remove pus and any particles of calcareous matter lodged behind the prostate, or in the cavities of any sacculi, should they exist. This reduces and economizes time and lessens the risks to the patient due to prolonged exposure. At each washing, six inches of the most sensitive part of the urethra escape the irritation produced by the passage of a catheter.

By the maintenance of the permanent opening we avoid the relapse which almost invariably takes place when the opening is allowed to close. It affords a speedy means of converting a putrid into a pure urine, and finally, from the cases I have operated upon, it would appear that all the inconveniences attending enlarged prostate are permanently arrested without incurring the risks of a really serious operation, and that nothing then remains in respect of that condition to curtail the length of an average life. In all my cases there has been perfect control over the urine after the operation.

Although the title of my subject implies the inference that I restrict this plan of treatment to confirmed and otherwise hopeless cases, this by no means represents my opinion. I have determined only to recommend what I have tried and found successful, but I think it logically follows that if the operation is successful in advanced cases, we may reasonably conjecture that it would be all the more successful if adopted earlier, as the advanced cases are undoubtedly the result of neglect in the earlier stages. So far I have been deterred from operating earlier by the reluctance of patients to undergo any operation until the intensity of their sufferings has compelled them to submit.

I further venture to claim that the advantages of this method have been extended to other conditions of the bladder. For

instance, in malignant growths with periodic attacks of hæmorrhage, the retention of a perineal opening generally renders the surgeon master of the situation, as he can at any moment place the patient in a condition of collapse, and by this means arrest the hæmorrhage.

From what I have stated, it may be gathered that, although what I advocate is only, perhaps, a small advance in the direction of what has been practiced before, nevertheless, small as it is, it is sufficient to secure advantages which have never been hitherto within the resource of surgery, as it affords freedom from pain and irritation, immunity from relapses, and an escape from the miseries of an incontinent bladder in cases of enlarged prostate.

In conclusion, I wish to emphasize the chief features of this treatment: First, that the operation is undertaken with the design to establish and permanently maintain a fistula, in the closest possible proximity to the bladder, but in front of the prostate. Secondly, that the fistula can be utilized at pleasure for the dual purpose of removing the contents of the bladder, and of minimizing the inconveniences attending regular, systematic, and thorough irrigation.

I am under the impression that the cases I have cited are the first on record where the bladder has been approached through the perineum with the deliberate intention of keeping the opening permanent for the purpose of relieving the pain and misery of an enlarged prostate.—*British Medical Journal*, April 13.

Dyspepsia as Reflected in the Mucous Membrane of the Upper Air-passages. By BEVERLEY ROBINSON, M. D.—It has long been a view to which I have clung with great tenacity, that affections of the upper air-passages can not be cured unless attention be directed to adjacent or remote organs, so that they may be made to exercise their functions properly. No amount of mere local treatment, whether it be medi-

cal or surgical, will produce this desired result unless the heart, lungs, liver and kidneys are all doing their share toward helping the general weal. Whilst all these organs are important to the preservation of a healthy upper air-tract, they all sink into relative littleness as compared with the immediate influence of the stomach. Let this organ perform its work well, and the nose, pharynx, and larynx are not apt to be great sufferers from catarrhal inflammation. Let the stomach be disturbed acutely or in a chronic manner by an attack of acute dyspepsia or habitual indigestion, and immediately there is evident morbid response on the part of the pituitary, pharyngeal, or laryngeal mucous membrane. I have seen children repeatedly who, whenever their stomach became upset by errors of diet or indiscretions of cake, candy, or soda-water, had febrile excitement accompanied by more or less marked pharyngeal inflammation. This pharyngeal inflammation is ordinarily one of two distinct types. Either there is a markedly red, swollen aspect, with sensations of dryness, soreness, and pain in deglutition, or there is less of these symptoms, while the tonsils on either side show a considerable number already of white exudations, situated over or near the mouths of the follicles, and which, so far as I have been able to observe, differ in no respect from similar deposits that indicate a contagious disorder with which we are all familiar. In many children, each time they are attacked with acute dyspepsia, gastric catarrh, or "biliousness," they also have within twenty-four or forty-eight hours subsequently an attack of this membranous amygdalitis. It shows itself sometimes indeed concomitantly with the evidences of disordered digestion, and again, as I have said, we may be obliged to wait a day or two longer before the throat deposits are visible. Seemingly in the latter cases there can be little doubt that the disturbance of the stomachal digestion was

the original factor in the development of the throat ailment. Now, this affection of the tonsils would not come under the heading, properly speaking, of the subject of our discussion were it not accompanied almost invariably with an extension of inflammation to the upper air-tract in one or other or both directions. Frequently the nasal passages become more or less occluded from swelling and infiltration of the turbinated bodies and the mucous membrane lining the naso-pharynx. Accompanying this condition there is a nasal intonation of voice, and when the tongue is depressed to look at the throat a mass of thick white or yellowish mucus fills up the interval between the pharyngeal wall and the margin of the soft palate. Immediately an effort of hawking takes place, so that the patient is enabled to expectorate the mass and afford himself relief. At times the pharyngeal wall is for a day or more covered with a continuous coating of viscid, sticky, adherent mucus. As this mucus drops down the pharyngeal wall some of it is prone to enter the larynx and produce a slight momentary sensation of suffocation or frequent harsh cough, until it is expelled by an effort of expectoration. Whenever, as will also occur, these attacks are accompanied by considerable hoarseness, it is the generally received impression that the child has in some unexplained manner taken cold. Now, although I believe that a not dissimilar state may occasionally occur from "catching cold," yet I am of the opinion that the digestive organs, and particularly the stomach, are, as a rule, directly responsible for these effects, always admitting that a check of perspiration, or sitting in a draught, or getting a wetting, may in a sensitive child produce acute indigestion, even though there has been no evident error in diet. To strengthen my interpretation of the cases referred to, I would lay emphasis on the fact that the best medication of a similar condition is active purgation and low

diet for several days. Local medication of the nose, fauces, pharynx, or larynx is of far less importance.

Having considered the effects of acute dyspepsia in children, I would direct your attention to chronic digestive disturbances. To locate precisely in small children the seat of their suffering is frequently difficult. This statement is nowhere truer than of the stomach and bowels. There are some children, frequently sons or daughters of poor parents, not rarely of well-to-do people, who have coated, flabby, indented tongues; habitual foul breath; yellowish conjunctivæ; thick, sallow-looking skin of face; small or capricious appetite; distended abdomen; confined or loose bowels. These same children are constantly having vomiting attacks, stomachal or abdominal pains, and are ordinarily listless, peevish, fretful, and ill disposed to play or be amused. Here, then, is a clear picture of dyspepsia, which might, of course, readily be enlarged or elaborated. How frequently in just such cases do we hear parents state that their child is unable to rest at night because it can not breathe through its nose; that, even when it goes finally to sleep, it is restless and uncomfortable, and awakens with a start, frightened and crying out! Such children are liable to croupy attacks, in which hoarseness and spasmodic dyspnœa are very pronounced. Now, if we examine the nose and throat, we are apt to find some of the following conditions: In the nose the turbinated bodies are swollen and pale-looking, and frequently on one or both sides almost touch the nasal septum in more or less extensive areas; often, indeed, there is no interval between these organs. The post-nasal space habitually contains a quantity of thick mucus, which the child can not detach by its own effort, but which spontaneously dislodges itself from time to time, and which, when it reaches the lower pharynx, is usually swallowed, thus helping much to increase the dyspepsia which

already exists. The pharynx, fauces, palate, tonsils, and larynx are all more or less pale-looking and relaxed. The uvula is apt to be elongated and somewhat infiltrated. The tonsils are sometimes considerably enlarged, but not in the majority of instances. Cough is a very frequent symptom. Occasionally it is a distressing, paroxysmal cough, caused by local irritation of the larynx from the presence of mucus, or by nerve irritation, or as a reflex from the elongated uvula tickling the base of the tongue or epiglottis. When we inquire into the efficient causation of such a condition, we are obliged to confess that great ignorance of or inattention to the most ordinary dietary requirements is the source from which so much trouble arises. It is interesting to observe in this connection how absolutely regardless many people are as to whether a child's bowels are moved every day regularly, as to the amount of sugar, or butter, or rich sauce a child may get at separate meals or at odd intervals during the twenty-four hours. And yet the great importance of proper care in these respects can not be a matter of reasonable doubt to any one who has closely observed the effects of the simplest remedial measures in restoring perfect equilibrium to the system. The remedial measure may not consist necessarily in doing something actively; it may merely be essential to eliminate or get rid of that which causes the outbreak of trouble.

Taking away an undue amount of sugar from the dietary of some children will enable them to pass restful nights when, previous to this exercise of care, they would have attacks of stridulous cough which would alarm a household. The free use of lime-water, in one instance I recall, broke up very rapidly spasmodic attacks of cough and hoarseness very distressing in character, accompanied by an eruption of urticaria on the face and neck. These attacks occurred in a little girl who for two years was unable to drink a glass of sim-

ple milk without causing such an attack. If she ate a small slice of bread with the milk, the attacks referred to did not occur.

I can only explain such an occurrence by supposing that the small amount of bread helped to divide the milk cure in such a way as to prevent stomachal dyspepsia.

In adults we are able to get, of course, clear descriptions in regard to digestive ailments if manifestly present, and to trace the connection more accurately between them and affections of the mucous membrane of the upper air-tract. In many cases it is difficult accurately to determine, however, which is the occasion of most distress—the dyspepsia on the one hand, or the catarrhal inflammation of the upper air-passages on the other. Not only is the statement true, so closely correlated are the two conditions, that when one is better the other improves, and if one grows worse the other immediately follows the same march, but it is also often evident that dyspepsia preceded for a long while, in a more or less pronounced manner, the advent of disordered function of the upper air-tract. This is not, however, always the case. No matter how closely we interrogate our patients at times, we can form no definite opinion as to which disease manifested itself at first. What I have said in regard to the effect of acute dyspepsia in children is only in part true, as a rule, of adults. Men and women are far less exposed to have the *follicular* form of amygdalitis accompanying the blocking up of the nose from pituitary thickening and catarrh of the naso-pharynx. Still, such cases do occasionally occur. Among dyspeptic adults there are several familiar types of reflected inflammatory or other disturbances of the mucous membrane of the upper air-passages. These depend much upon the character or underlying causes of the dyspepsia. In women, especially those who are pale, careworn victims of nervousness, palpitations, leucorrhoea, and menstrual derangements, we

shall, in my experience, often discover atrophic conditions present in the nose and throat. I am inclined to believe at present, mainly from analogy, that just as the glandular apparatus seems insufficient in the stomach to furnish a healthy and adequate amount of digestive fluids, so the pale, contracted, improperly nourished pituitary membrane, which is only an accompaniment here of gland atrophy, explains in some degree the presence of those hard, scaly, adherent, bad-smelling deposits which, under these circumstances, we are apt to notice in the nasal passages, upon the septum or turbinated bodies, or lodged high up in the naso-pharynx. * *

* *—*New York Medical Journal.*, April 20, 1889.

The Tabetic Eye.—Before the Société de médecine de Paris, M. TROUSSEAU lately read an interesting paper upon this subject that appears in the *Union Médicale* for March 9, 1889. The ocular symptoms of tabes, he says, are important in exact proportion to a knowledge of their special characteristics and relations to the disease that causes them. Whether they serve to trace the malady or to confirm a doubtful diagnosis, they are equally valuable, and should receive the most careful study.

Fournier has noted eye troubles in thirty-four out of two hundred and twenty-four cases. This proportion is probably smaller than actually exists, for many patients present ocular phenomena perceptible only to the physician, and of which they themselves do not complain. These insidious manifestations are especially helpful in discovering the disease during its early stages. Certain conditions belonging to the pre-ataxic state have been set down to syphilis pure and simple, owing to ignorance concerning ataxia, and to the fact that so frequently an antecedent history of syphilis is given. According to Galezowski, in nine cases out of ten, tabetic affections of vision are due

to syphilis alone. Of thirty cases investigated by the author, twenty-five presented unmistakable evidences of this disease, two were doubtful, and in the three others the patients had never been inoculated.

The eye muscles, the iris, and the optic nerve are the tracts most apt to be affected, but they are not the only ones. In 1886 Pétrolacci, of Montpellier, wrote a thesis on ataxic lacrymation. Feré had under observation a patient in whom attacks of circumorbital pains of lightning-like character and unilateral lacrymation appeared and disappeared with equal suddenness, and in ataxic subjects disseminated circumorbital anæsthesia is of frequent occurrence. Berger has called attention to the diminished ocular tension during the paralytic stage.

Ophthalmic migraine, with its scotoma and hemianopsia, the author thinks may be allied to tabes, for he has observed two patients in whom frequent attacks of this sort accompanied the pretabetic period. One of the unfortunates retained this inconvenient symptom. As a general thing, not enough importance is attached to ophthalmic migraine as a precursory sign of ataxia.

The eye muscles are often paralyzed during the course of the disease, sometimes at the beginning and sometimes toward the end. This seems to have no clinical connection with optic atrophy. In other words, it is unreasonable to conclude from the presence of muscular paralysis that the patient is predisposed to optic atrophy. In six hundred cases of atrophy, Galezowski has encountered, before or during the course of profound ataxias, two hundred in which muscular paralysis existed. This simply illustrates a certain relative frequency, but can not be looked upon as bearing a very close relation. The lesions are of a different order. The prognosis is of a fatal nature in papillary atrophy, while muscular paralyses are curable. When, however,

such paralyses are joined to pupillary disturbances, it is safe to affirm the probability of tabes. In the pre-ataxic stage, when the diagnosis is doubtful, the presence of these united signs is of chief importance. Ocular paralyses vary in character according to the stage of the spinal-cord affection. At the onset they are for the most part simple forms of paresis (diplopia without strabismus), developing and disappearing readily enough, sometimes instantaneously and without treatment, and returning suddenly at times. They may affect one or several muscles at the same time or in succession. These are the peculiar phenomena formerly considered distinctive of syphilis. But they are certainly rare except in the syphilitic patient who is a candidate for ataxia.

The muscles that move the ball may be attacked, and also those of the lid, causing the slight narrowing of the palpebral fissure that Berger notes in ataxic subjects. The ptosis that exists in other cases has a similar origin, as well as the paralysis of the levators of both sides seen by Déjérine. It is impossible to fathom the cause of phenomena so *bizarre* in any brief survey of the subject. They may be due to irritation simply; to nuclear sclerosis; to sclerosis of the vertebral artery and its branches, as Schmeichler suggests; or to peripheral neuritis, according to Déjérine's theory; or, let us say with Brown-Sequard, considering the flitting character of these motor paralyses, they have a cause as yet indefinite.

The pupil of the tabetic eye is a source of much valuable information. There may be single or double myosis of the pin-hole variety, rendering an examination of the fundus extremely difficult; or mydriasis may exist, most frequently on one side only. Sometimes there is paralysis of accommodation without mydriasis, in which case Galezowski has noticed circumorbital anæsthesia. In some cases light does not affect the pupil, but its reaction in accom-

modation is normal. In others, on the contrary, the Argyll-Robertson pupil in itself is a guide to a correct diagnosis. Berger calls attention to an elliptic deformity of the pupil. The tabetic eye is also subject to an affection of the gravest moment, to wit, atrophy of the papilla. Erb notes in it twelve out of a hundred cases; Mæli, in thirteen in a hundred; and Schmeichler finds it forty times in a hundred cases. Its chief characteristics are steady progress and the well-known appearance that the ophthalmoscope reveals. The grayish color of the papilla has been alleged as a pathognomonic sign of ataxia. Clinically, this fine distinction can not be admitted. It is not rare to come across ataxic papillæ that are very white. While the papilla is progressively losing its normal color—indeed, before there is any change in the tint—there is narrowing of the field of vision, which is preceded by a diminution of color perception according to the following order: green, red, blue. At the same time there are lacunæ and scotomata in the visual field. Abadie finds a characteristic picture of ataxic atrophy. Charcot points out the fact that sclerosis of the optic nerve may precede typical ataxic phenomena and betoken them a long time in advance. Whatever the period of its appearance, it condemns the unhappy victim to a certain and total blindness that can not be delayed or relieved.—*New York Medical Journal*. April 20, 1889.

The Radical Cure of Inguinal Hernia.—

At a meeting of the New York Academy of Medicine last February, Dr. CHARLES MCBURNEY read a paper in which he reported thirty-six operations for the radical cure of hernia by a method that is essentially his own; of these cases only one relapsed, and that was due to the faulty ligation of the sac, and one patient died eight days after the operation, having developed alcoholic delirium.

The operation is essentially his, because Dr. McBurney stated that subsequent to his conception of the operation he learned that Otto Riesel (*Deutsche Med. Woch.*, Berlin, 1877, pp. 449, 467) had advised similar technique to that that he employed. The paper is published, with illustrations, in the *New York Medical Record* of March 23, and from it we take the following details.

Certain fundamental principles are first insisted upon: "In the formation of inguinal hernia the first predisposing and inviting cause is the slight pouch or pocket formed by the peritoneum as it is reflected over the upper part of the spermatic cord in the male, and over the round ligament in the female, at the point where this cord enters the internal abdominal ring. The loose connective tissue which accompanies the cord, and fills the inguinal canal, forms no substantial backing to the peritoneum at this point, hence a protrusion which is at first a tiny pocket readily grows under the great and constant pressure from within to a fully developed inguinal hernia."

Assuming the correctness of the foregoing, it is necessary to remove the predisposing cause—the pouching opposite the internal ring,—and support the peritoneum at this point, in order to radically cure the hernia.

To attain these ends the operation is as follows: The patient is thoroughly cleansed, the pubes and scrotum shaved, and the bowels evacuated—if possible. A free incision is made in the skin, commencing external to the internal ring, and following the line of the canal to the scrotum. The subcutaneous tissues are incised until the sac is exposed. A blade of a blunt scissors is introduced under the edge of the external ring, and the anterior wall is slit completely up—beyond the internal ring. With fingers, or handle of the scalpel, the sac is freed from all its coverings, separated from the spermatic cord, and lifted up. The wound, and the hands of the

operator are now thoroughly cleansed with some antiseptic solution, the sac opened at its distal extremity, and if intestinal contents are present they must be reduced. If omentum is present, it is securely tied with catgut, and cut off, leaving a generous stump in order that there may be no slipping of the ligature. The stump is returned to the abdominal cavity, after all adhesions are broken up.

The sac is then held up vertically from the internal ring, the operator inserting a finger through the neck into the peritoneal cavity, thus guarding absolutely against the presence of intestine or omentum. An assistant then places a ligature of strong gut, or silk, about the neck of the sac at the highest point, slight traction on the sac being made by the surgeon, and his finger being withdrawn as the ligature tightens on it. The free portion of the sac is then incised, leaving a pedicle long enough to prevent slipping of the ligature. In congenital hernia it has been necessary to sew the neck carefully and smoothly.

From four to eight silk sutures are now passed through the tissues forming the upper wall of the wound, that is, the conjoined tendon, the aponeurosis of the external oblique, including the inner pillar of the external ring, and the skin. The latter is deeply invested while each stitch is tied tightly. In the lower wall, the aponeurosis of the external oblique and the outer pillar of the ring, the fascia, and the skin, are similarly sutured, the skin being inverted. Two heavy tension sutures are passed through the skin, entering and emerging about an inch from the edges of the wound, and fastened over pledgets of iodoform gauze to prevent ulceration of the skin. The wound is irrigated, dusted with iodoform, and iodoform gauze firmly packed in the canal, thus preventing œdema of the cord and consequent interference with granulation.

The scrotal or labial wound is sewed up simply, without packing. The wound is

covered with antiseptic gauze, and the abdomen and thighs firmly bandaged. A piece of rubber tissue, passed over the penis and pinned to the bandages will prevent soiling by urine. In children plaster-of-paris dressing may be applied, and in girls the bandage may be shellacked.

In ten days the dressings may be changed, but if the operation has been aseptic there will be no suppuration and irrigation of the wound will not then be necessary. Exuberant granulations may be scraped with a sharp spoon or touched with nitrate of silver. The time for healing, with the formation of a dense cicatrix, is five to six weeks. When the patient sits up, no truss nor support is to be used: as the author says, if these were required he "should look upon the operation as very far from deserving the name of 'radical cure.'"

In the discussion that followed the reading of the paper several of the more prominent New York surgeons spoke favorably of the operation, having employed it as a more desirable method than any usually resorted to.

The Charity Institutions of Paris—Nursing Infants with Asses' Milk.—In recent years, in France, conscientious efforts have been made to ascertain the principal causes of the loss of population, and it has been demonstrated by numerous facts that one of these causes consists in the physical degeneration induced by deficiency of alimentation in infancy: and the most eminent physicians of Paris, and the Director of Public Assistance, have endeavored to modify and improve the system of nutrition in the public charitable institutions, providing for recently born children lactation adequate to the necessities of the temperament and constitution.

In the Hospital for Infants' Diseases, situated in Sabres Street, there exists a section for rickety boys and girls, whose miserable aspect produces an impression of

pain upon the mind—unfortunate beings who have inherited the organic vices of their parents, and who suffer from anæmia's cruel tortures.

The administration of the hospital is arranged in two separated pavilions, where there is much ventilation, with large windows that look out upon a garden, and whose walls have double rows of willow cradles perfectly equipped. The newly born receive here the personal care of the establishment, beginning with being weighed in the balance the same day they make their appearance, the operation being frequently repeated almost every month in order to determine with exactness the development of the child. The little one is subjected to an especially nutritious diet of the most tonic kind, if it had been previously fed from a refractory goat liable to convey contagious germs, it having been found by experiment that the milk of this animal, although possessing nutritive principles of the most salutary kind, presents the inconvenience of communicating by absorption the effects of those nervous accidents to which the goat is subject.

The public charities of Paris, advised by the wise doctors of medicine, have substituted for the milk of goats that of the ass, and have installed an ample yard near the pavilion of the rickety and scrofulous children, which is only separated by a short covered passage-way. Nothing is more picturesque than the spectacle of the lactation of the babies in this inclosure every morning. * * * *

The nurses, dressed in dark gowns with white caps and aprons, each carrying a child on the right arm and a little seat in the left hand, present themselves in exact turn to the women who have charge of the animals, and they hold the child, applying its lips to the teats of the docile animal. The children suck with avidity the liquid nutriment, which is fresh and of agreeable taste.

The Administration of Public Assistance of Paris has calculated that one young ass is able to lactate abundantly for a space of nine or ten months, and when this period has passed they are sold and replaced by others. It is well known that the milk of asses, by its vivifying qualities and its nutritious principles, assimilates in a great degree the milk of the nurse, and these disinherited and sick children, enjoying its beneficial effects by its permanent and methodical use, are restored little by little to health and vigor.—*La Illustracion Espanola*.—*The Sanitarian*.

The Nursing Question.—A remarkable degree of public attention has been recently concentrated upon the position of women who follow the profession of nursing. The correspondence of a lengthy and for the most part one-sided and inaccurate description which appeared upon the subject of "lady nurses" in the columns of a lay contemporary has just been followed by a virulent article, describing nurses as white slaves, in the columns of an emotional evening publication. It is not, of course, essential to pause and consider whether the article in question was the production of a professional man or woman; we may, however, assume that, whoever the author may be—man or woman—there is evidence that the facts have been obtained second-hand, and are in many important particulars exaggerated and distorted. A foolish comparison is drawn between the "white slaves" who are required to be on duty in the wards attending to the patients and the medical officers whose duties enable them to enjoy themselves at lawn tennis after their visits to the wards. In this comparison we fail to see where the hardship exists. It is essential to bear in mind that women voluntarily take office as nurses, and have plenty of opportunity of testing their physical endurance for the work before they permanently engage themselves. For their services they are well paid, and have in

addition board, lodging and uniform. Except for ladies of good education and birth, who in the majority of cases, merely for private family reasons, separate themselves from their homes and embark upon a nursing career, these are advantages for the most part which are far beyond the class of persons who seek to become nurses. The number of women of good education who are now applying for the vacancies of probationers at the various nursing training establishments in the metropolis is quite unprecedented; the supply is infinitely greater than the demand in this particular sphere of woman's work, despite the hardships which are supposed to environ it. The latest development in this regard is the suggested formation of a trade-union of nurses, and a gentleman has, with this object in view, even placed himself in communication with the "overworked and underpaid *employés* of nursing institutes." Such is the wording of the announcement which he has made. We shall probably hear next of a trade-union of hospital porters, established for the purpose of compelling the various hospital authorities to supply the porters with beer to be drunk on the premises during the hours of duty.—*The Medical Press*.

The Etiology of Tetanus.—Tetanus is now generally recognized as a disease due to the ravages of a specific microbe, and M. Verneuil has pointed out that the soil contaminated by the dejections of tetanic animals preserves its virulence for long periods of time. In Havana, where the disease is rife, it has been remarked that it occurs in the vast majority of cases (132 out of 162) as a consequence of wounds of the lower extremities, and generally wherever the wound is brought into contact with the soil, as in crushed feet, comminuted fractures in which the bones are driven into the ground, and where the injuries are inflicted by agricultural implements, or dressed with earth—a common practice in rural

districts. A series of experiments carried out with soil from farms where outbreaks of the disease have occurred, have afforded striking proof of the possibility of infection from this source. These data are exceptionally valuable, inasmuch as they throw a good deal of light on a disease as to the nature and etiology of which we were, until quite recently, profoundly ignorant.—*The Medical Press*.

A "Cremator" Cremated.—By the New York press telegraphic reports of March 27th, 1889, we learn that the crematory erected by Chicago for the burning of the city's garbage was burned to the ground by an incendiary fire the day before; and that citizens in the neighborhood have been indignantly remonstrating against its use for some time, alleging that it created an unbearable stench.

This is understood to be the "Distillery Crematory"—the *Mann* patent—which was so enthusiastically urged by its patrons at the Milwaukee meeting of the American Public Health Association in November last. As at that time in operation in Buffalo, it was said that the entire running expenses could be defrayed by the lubricating oils extracted from, and the residual manure of, the garbage "cremated;" and that the process was entirely free from offensive odors. The one at Buffalo has since been reported a nuisance, and that at Chicago as above. It is to be hoped that rendering apparatus, such as this appears to be, will not detract from or prove to be an obstacle in the way of the growing interest in garbage cremation, and the adoption of such cremators as will effect the purpose without nuisance.—*The Sanitarian*.

Medicine in Japan.—The Japanese are progressing in the matter of medical institutions. It is announced that in the country at the present moment there are thirty-one schools of medicine, four schools of pharmacy, and two schools of veterinary

surgery. The University of Tokio, moreover, contains 1,218 students. It would be interesting to know whether the Japanese, like certain European countries, admit ladies to the classes, and if there is to be found any Japanese lady practicing in her own country. Hazarding a guess, we should feel doubtful that the Japanese have, at all events as yet, in imitation of the custom in England and other nations, placed the medical profession within the reach of their wives and daughters. In Japan European customs are often adopted, and are generally most popular, but we have no means of knowing whether lady doctors have established a *raison d'être* in the country.—*The Medical Press*.

Dried Potatoes.—In the *Voenna-Sanitar-noie Delo*, Dr. Jakov M. Shmulevitch emphatically draws attention to dried potatoes as an important food article, possessing some very valuable advantages in comparison with the vegetable in a fresh state. The advantages claimed for the article are these: (1) While fresh potatoes easily rot, blacken, and sprout, dried potatoes, when kept duly protected from moisture, remain in the best condition for a very long time; and (2), being by far lighter and less bulky than fresh potatoes, are by far more convenient for preservation and transportation, which point has a great practical importance, especially in time of war. To be fit for culinary use, the article requires a preliminary maceration in water for ten or twelve hours.—*The Sanitarian*.

Overcrowding of the Medical Profession in Germany.—According to a foreign contemporary, the overcrowding of the profession in Germany has given rise to some apprehension on the part of the authorities. Not only does the Government refuse to open fresh schools of medicine, but quite recently the Landtag refused the subsidies hitherto accorded to the professional chairs at Halle and Marburg.—*The Medical Press*.

EDITORIAL.

*PULMONARY TUBERCULOSIS, AND ITS
TREATMENT BY HOT AIR.*

A method, proposed by Weigert, of treating tuberculosis by the inhalation of hot air has been attracting some attention lately. The plan is founded on the theory that tubercle-bacilli cannot live in a high temperature easily borne by man. "Even at a temperature of 38.5° C. [101.3° F.] they are very much weakened, and at a temperature greater than 42° C. [107.6° F.] they are killed." Man, however, can inhale, for a considerable time without injury, air as hot as 250° to 300° C. [482° to 572° F.] This heated air fills the lungs and, it is claimed, will raise the tissues to such a point as to kill the bacilli. The inhaling apparatus is a chamber heated by a lamp; two tubes pass off from the chamber, one from the top and the other from the bottom. The temperature is regulated by a thermometer. The patient takes the upper tube into the mouth and makes slow and full respirations, taking in as little air outside the tube as possible. The sittings are for one or two hours once every day.

The results claimed are increased expansion of the chest, in one case from 89 cm. to 95½ cm. within a few weeks. Dullness is cleared up, difficulty of breathing is diminished or disappears; the weight of the body is increased and the bacilli in the sputum diminish in number and show signs of a less vigorous growth.

The treatment has not been used long enough to determine whether or not this improvement in the patient is permanent.

The plan looks plausible enough at first to tempt to a careful trial. Still there are some reasons that lead us to doubt whether the hopes of the advocates of the treatment will ever be realized. As a general thing pathogenic bacteria in the tissues are hard to kill. Surgeons have learned by much sad experience that no amount of antiseptics will do away with the harm from dirty

instruments or dirty hands. Obstetricians have learned to keep even clean hands off as much as possible. A suppurating wound cannot be cleaned by antiseptics alone—drainage is required, and that acts largely mechanically by carrying off the septic germs. Experience with all sorts of bacterial diseases has demonstrated that it is much better and easier to keep the germs out than to get them out after they have once got in. Tubercle-bacilli are no exception to the rule that bacteria in the tissues are hard to kill, as all know who have treated tuberculous ulcerations.

In tuberculosis the bacilli are imbedded in the lung tissue and in order to kill them this tissue must be heated to the fatal point of the bacteria and kept at this point for some little time. It is doubtful whether this occurs as the result of the treatment. It must be remembered that the air in the deepest inspiration penetrates only to the larger bronchial tubes. The mixture of this air with the residual air takes place slowly by the action of the cilia which line the tubes. While this is taking place the blood is circulating in great volume and with great speed in the lungs, all the blood in the body going through them in about half a minute. This great volume of blood must exert a powerful influence in keeping the temperature of the lungs the same as that of other parts of the body. It would seem that before any great elevation of temperature in the lungs could take place, all the blood must be heated nearly or quite as high as the lung tissue, consequently the temperature of the whole body must be raised. This does not occur. Those who have tried the treatment say that from .1° to .3° C. [.18° to .54° F.] higher than usual is all the elevation that the most careful examination ever shows. Such a rise would of course do the bacilli no harm.

Another thing should be borne in mind: In all ordinary cases of tuberculosis we have to do not with the tubercle-bacilli alone.

Early in the disease the tubercles soften and form cavities. These cavities in a soft and highly vascular tissue are filled with putrid pus which can not be drained off, and is constantly spreading over other portions of the lung tissue. This is absorbed, and causes more or less septic poisoning. Many if not the most of the worst symptoms of tuberculosis come from this secondary infection. The germs causing this putrefaction would be rather stimulated than injured by a high temperature.

Even if the treatment were to destroy the tubercle-bacilli, which we doubt, there would still remain the other infection, and the patient would be little if any better off than before.

We fear, therefore, that the improvement in the patients is only temporary; due, perhaps, to the practice of deep inspiration; and that the hopes of the advocates of the treatment are destined to disappointment.

NEW METHODS OF TREATING LOCOMOTOR ATAXIA.

Dr. Stembo, in a late number of the *Berliner klinische Wochenschrift*, has an interesting paper on the causation and treatment of locomotor ataxia. He is of the opinion, now so rapidly gaining ground, that a large majority of these cases have a syphilitic history. Among thirty-nine cases treated by him, twenty-four [61.6 per cent.] have had a syphilitic history of from eight to twenty-four years standing. Many of these cases had no other syphilitic symptom. One of his cases shows the difficulty which may occur in discovering syphilis. The patient denied ever having had the disease, and showed no traces of syphilis, but Dr. Stembo accidentally discovered that ten years before the man had been for some time a hospital patient under syphilitic treatment.

Notwithstanding his belief in the influence of syphilis in causing locomotor ataxia, he has never found any benefit

from antisyphilitic treatment, where other symptoms of syphilis did not exist.

Like most other physicians, he has gone the rounds of the materia medica in the treatment of locomotor ataxia with little benefit. ELECTRICITY alone has been of use. He has used this agent in the form of the constant current—the induced current—and frictional electricity. Each one of these methods had a good influence, but acted in a somewhat different way from the others.

Frictional electricity produced the quickest results, especially in regard to sensibility and coördination: the constant current produced more lasting results: the induced current was midway between the other two. In order to secure the best results he has of late been using a combination of these as follows:

I. Constant and induced current after one another.

The anode, about seventy square centimeters in area, is attached somewhat sideways on the neck, by a band. The cathode, a little smaller, is then applied “*stationsweise*” along the opposite side of the spinal column. The electrodes are then changed to opposite sides and the current applied in the same way as before. Three “stations” are used on each side, and for each station half a minute is allowed. The strength of the current is from 1 to 1½ milliamperes.

He then attaches the neck electrode to the sternum and treats the back with the anode, especially the painful points or the place of the girdle feeling.

The anode is then attached to the electrode on the sternum and the other pole to a brush of forty square centimeters, and an induction current is applied. The current should never cause more than a slight tingling sensation. The brush is applied to the back, on both sides of the spinous processes, from above downwards, and is allowed to rest ten to fifteen seconds in a place.

II. Constant and induced current together.

The large electrode is fastened to the neck as before and connected with the anode of a galvano-faradic current, while the cathode, connected with the brush, is passed along the back as before.

The strength of the constant current is $1-1\frac{1}{2}$ milliampères for the faradic 90. mm. R. A. of a normal induction apparatus, and for the same length of time.

In using static electricity the patient is placed upon an insulated table which is connected with the positive pole. The negative pole is connected with a common ball electrode and applied along the spine and to the painful places. In the beginning, the length of the spark must be very small; if the patient is sensitive the positive pole may be led to the earth.

The writer gives the histories of three cases as samples. In all these cases the symptoms were arrested by the treatment.

He drops the caution that care and considerable special knowledge in the use of the apparatus are needed in applying this treatment successfully.

In this connection it may be well to notice that Dr. Joseph Schreiber is authority for the statement [*Berliner klin. Wochenschrift*; 1888; No. 52.] that Dr. Freund, Docent in Vienna, has tried the Mitchell treatment—rest in bed, nutritious diet and massage—together with electricity, in a case of mild tabes. In addition to the ordinary diet, 1 to $1\frac{1}{2}$ litres of milk were used every day.

The method of using the electricity is not stated.

The patient improved for a time, but the trouble recurred with all its original force and steadily grew worse.

THE SUSPENSION TREATMENT in this disease, first described by Motchowkowsky, but brought prominently before the profession by Professor Charcot, last winter, has been tried by Dr. Morton, as reported in

the *New York Medical Record*. He uses a Sayre suspension apparatus. When the patients are able to use their hands he uses the head straps alone, allowing the patients to pull upon the rope with their hands raised high above the head. If strong enough, they may make the suspension alone; otherwise they are assisted.

When they cannot use their hands the arm-straps are used, the weight being divided equally between the head and arms. A convenient way in this last class of patients is to arrange the apparatus while the patient is seated in a chair. When all is ready, an attendant raises him to his feet whilst another pulls upon the rope.

He begins with a suspension of from one to two minutes, every second day, increasing the time to five or seven minutes. One suspension every second day is enough. The patients are raised so that the balls of the feet just touch the floor. The toes should not leave the floor, at least in self suspension. In helpless patients, it is a good plan to raise the arms occasionally so as to bring more weight upon the head.

Dr. Morton has tried the treatment in six cases, using over two hundred suspensions. So far, every case has improved under the treatment. The relief is almost immediate. He has never had any unpleasant results except in one case, when a patient "had a severe cramp like a 'crick' in the back of the neck. It lasted about a minute and soon wore off. The back strap of the apparatus against the neck probably pressed in upon the muscles already in a state of abnormal irritability. It should bear squarely upon the occiput."

Dr. Morton is hopeful as to the value of this treatment and thinks that "we shall be obliged to admit that the sum total of improvement and cure, be it temporary or permanent, is far in excess of that attainable by any previous means, and as such must be regarded as the most signal advance yet made in the treatment of this hitherto intractable disease."

THE ILLINOIS STATE BOARD OF HEALTH.

The lower house of the State Legislature has apparently developed an amount of opposition to the State Board of Health which seriously threatens the existence of that body. It proposes to make no appropriation for the current expenses of the Board, and to repeal that section (section 11) of the Medical Practice Act which compels itinerant vendors of medicines to procure a license from the State Board of Health.

Such action on the part of the House of Representatives can scarcely be the result of careful consideration of the interests of the State, and is, on sanitary grounds if no other, very much to be regretted. The work of the Board is necessarily of such a nature that personal antagonisms inevitably arise, and there may also be sincere differences of opinion in regard to its methods of work, and in regard to the value to the State of the results which it has accomplished. But with all due consideration it must be admitted that the medical profession is, upon these points, better fitted and more competent to judge than the Legislature is, and the weight of opinion in the medical profession of the State is strongly in favor of the retention of a State Board of Health. Among educated physicians and sanitarians who have given careful attention to the subject, Boards of Health are considered necessities in civilized communities. This expression of opinion is so far entirely independent of the question of continuing the existence of the Illinois State Board of Health as now constituted. We wish not to be misunderstood when we say, in this connection, that we regard the work done by this Board as of great value to the State.

If the Legislature is not satisfied with the work of the Board, which is its servant and creature, it ought to specify to what it objects and give corresponding orders. But in the name of fairplay and straightforward dealing, and in the sanitary inter-

ests of the State, let it not resort to the ambiguous plan of making the law a dead letter by refusal to appropriate the money necessary for its execution. Amend it or even repeal it if best or necessary, but do not render it inoperative by stealth.

A discussion of the advisability of the repeal of Section 11 of the Medical Practice Act is intentionally avoided in this connection, but an earnest appeal is made to the Legislature not to allow their disapproval of one or more sections of the act, or of the officers appointed for its execution, to be made the occasion for hasty and ill-considered destruction of an agency which is a sanitary necessity for the protection of the people, but not for the medical profession which needs no legal enactments for its protection, and which should not have any.

SOCIETY REPORTS.**ALLEGHENY COUNTY MEDICAL SOCIETY.**

Special Meeting, March 19.

DR. W. F. KNOX, M.D., PRESIDENT, IN THE CHAIR.

LAPAROTOMY FOR EXTRA-UTERINE PREGNANCY.

DR. X. O. WEBER: At the November meeting of this Society I reported a case of extra-uterine pregnancy in which I had performed abdominal section with a successful result. To-day I present the specimen of my second case of tubal pregnancy, removed by laparotomy, on February 14th, of this year.

The history of this case is, briefly, as follows:

Mrs. M., 27 years of age, married, two children, the youngest 16 months old, has been suffering with periodical attacks of severe abdominal pains for almost a year, for which she several times required medical treatment. During the five or six weeks preceding the operation, these attacks increased in frequency and severity, making her unfit to do her ordinary household duties. Walking almost always produced a great deal of suffering. On January 26

of this year I was consulted for one of these attacks of pain, which was referred to the pelvic region, principally the left side. Making a vaginal examination, I found the uterus enlarged to the size almost of a two months' pregnancy and to the left of this, in the region of the left tube, a soft, extremely tender mass, which was slightly movable. A careful bimanual examination could not be made on account of the very great sensitiveness of these parts. She had menstruated regularly every four weeks during the last eight or nine months, and was at this time still nursing her baby. At the two subsequent examinations I found no change in her condition, except, perhaps, that this tumor was slightly larger than before. The diagnosis was not quite clear, but I was inclined to the opinion that it was either a hydrosalpinx, or a pyosalpinx, more probably the latter. As her suffering at times had almost become unbearable, I advised laparotomy, to which she readily consented, but the operation was deferred until after her next menstrual period, which was now very close at hand. Menses lasted five days, and presented nothing unusual. In the afternoon of the 13th of February, the day preceding the operation, she came to my office in a carriage, from her home, for the purpose of going to Mercy Hospital. On examination I found her condition unchanged; the mass, however, seemed now decidedly larger. The riding on the rough country road from her home did not seem to have caused her as much suffering as expected, and she was cheerful, and feeling better than for several days previously. But on her way to the hospital the pains returned in unusual severity, and she arrived there faint and nearly collapsed. Several hypodermic injections of morphia made her more comfortable, but she continued very sick and sore all night. On my morning visit before the operation, she looked very pale, and was very feeble, still suffering considerable pain. Vaginal examination was not made.

On opening the peritoneal cavity dark blood escaped from the wound, and the abdomen was found containing a considerable quantity of blood, liquid and coagulated. In reaching down for the sac, on the left of the uterus, I felt a small rent in it, probably one-half inch long, which, however, in trying to bring it to the surface, was enlarged, so that all its contents escaped into the abdominal cavity. The bleeding was now very free, the blood being bright red, and easily distinguishable from the old dark blood already contained in the abdomen. The sac was now tied off, and the clots contained within the pelvic cavity turned out. After washing out the abdomen with hot distilled water, it was closed, leaving, however, a glass drainage tube. Blood continued to discharge from this tube for three days, when it was removed.

The patient rallied very nicely from the operation, and made an uninterrupted recovery, her temperature and pulse remaining perfectly normal after the fourth day. She left the hospital on the 21st day, and is now in good health.

Rupture of the tube must have taken place on her way to or at the hospital, probably as a consequence of the jolting of the carriage. This evidently was the cause of the faintness and slight collapse after her arrival at the hospital the evening before the operation.

Comparing the histories of the two cases operated on by me, we find the first case an almost typical one of ectopic pregnancy, and one of comparatively easy diagnosis to one at all familiar with this interesting anomaly, while the second case is as atypical as possible, in which I claim a diagnosis to have been entirely impossible, for there was not the slightest reason to even suspect a pregnancy, as the patient had been menstruating regularly, her last catamenial period terminating just a few days before the operation, and she was still nursing her baby at the time she came under observation.

This case illustrates again the great difficulties in diagnosing extra-uterine pregnancy, and I can not agree with Hanks, when he states that the diagnosis can be made in at least 95 per cent of cases. The case also demonstrates that this interesting affection is by no means such a very rare condition as some seem to suppose, as this is the second case occurring in my own practice within the period of four months. That this was a case of tubal pregnancy there could be very little doubt, but in order to be perfectly certain, I sent the specimen to Dr. Wm. H. Welch, of Johns Hopkins University, Baltimore, for examination, and he verified the diagnosis. The specimen, he states, consists of an ovary, part of a Fallopian tube, the intervening broad ligament, the fetal membranes and a placenta with umbilical cord.

DR. DUFF: Two months ago I reported a case of rheumatism, or rather a case of rheumatism associated with eruptions around the joints; at the time I did not understand the case, and could not say what the outcome would be. The rash was first papillary, then vesicular, following up in the order of the joints attacked. A few days after, I found several large blebs over the shoulder, just such as we have arise after the application of cantharides plaster. As they dried up, the submaxillary glands and cervical glands began to enlarge and continue until suppuration occurred, and discharged large amounts of pus. After suppuration occurred, the young lady improved rapidly. I am still at a loss to account for the condition, and promised that I would give the result of the case.

DR. PAINTER reported a case of

CONGENITAL MALFORMATION OF THE SOFT
PALATE.

Mrs. F., aged 40, a widow eight years, consulted me on account of hoarseness following a cold. Inspecting the pharynx, I found an unique anatomical relation existing between the upper part of the pharynx and the soft palate, of which the

patient was ignorant. The free border of the soft palate and the palato-pharyngeus muscle on either side are carried backward and attached to the posterior wall of the pharynx, forming a diaphragm between the superior and middle divisions of the pharynx. In this dividing membrane there are two somewhat circular openings—one one-half inch, and the other one-eighth inch in diameter. These openings are in the median line. The uvula can not be distinguished. The patient can give no reason for this marked departure from the normal construction, and was ignorant of any irregularity till I asked her to permit a demonstration of her throat to this Society. She supports a family of five by washing. She frequently has a cold in the head, but experiences no difficulty in clearing the nose. She has never had noises in the ears and hears well. The sense of smell and taste is unimpaired, and her voice, save an occasional hoarseness, has never changed. The voice might be described as muffled. Her sleep is undisturbed. At least two of her children have throats normal in construction. She has had typhoid fever, and believes she had diphtheria when a child. As I demonstrate the case, it will be observed that she is well developed generally and in good health. In the absence of any ulcerative process, I conclude the case to be one of congenital malformation. The case has two interesting points: First, this malformation is uncommon; and secondly, the absence of symptoms such as one would think should follow such abnormality.

DR. HUSELTON reported a case of

COMPOUND PUNCTURED FRACTURE OF THE SKULL, produced by the calk of a horse's shoe. John T., aged 38, a farmer, was brought into the Allegheny General Hospital on the evening of January 26th, with a history of "fractured skull." He was conscious, talked rationally, pupils equal, no paralysis, and a full, slow pulse. The history, as given by himself, is as follows: He

was riding in a "buckboard," leading a spirited horse by means of an ordinary halter. The horse, becoming frightened at a passing railway train, jumped upon the "buckboard," knocking the patient to the ground. He tried to rise, still holding to the strap, when the horse reared and came down, his hoof striking the patient on the head, rendering him unconscious. He did not regain consciousness for about one hour after the injury, when he walked into the hospital supported by a friend.

An examination revealed a depressed, punctured fracture of the skull, situated in the frontal bone, two inches above the right eye. The fracture was shaped like, and about the size of a large almond, and very much depressed. A sero-sanguinolent fluid, supposed to be subarachnoid, escaped from the wound, but we were unable to find an opening in the dura mater. This fluid flowed freely as long as the head was resting on the occiput, but on turning it to either side it ceased. I trephined, removing the button from the lower portion of the wound. A number of fragments, principally from the inner table, were removed and the depressed bone elevated into position. There was no hemorrhage from the interior. The wound was flushed with a solution of bichloride of mercury (1:4000). A few strands of silk were placed in the opening and brought out at the lower portion of the wound for drainage. The edges were brought together by silk sutures, and the operation completed by an antiseptic dressing. On the morning of the 27th his temperature was 100.4° , but gradually and continuously dropped to 98.4° on the 29th, and remained normal from this time on. The dressings were removed on the 30th, four days after the operation. The wound had closed by primary union, and without a drop of pus or discharge of any character. The stitches and silk for drainage were removed on this occasion, and the head was redressed, observing the same antiseptic precautions

as at first. These dressings were removed on February 4th; and as every part of the original injury was healed, an ordinary nightcap bandage was applied and the patient was permitted to get up on the next day, February 5th.

The case progressed without an untoward symptom of any kind. The patient was anxious to go home on the tenth day after the operation, but was kept in the hospital as a precautionary measure until February 15th, when he was discharged cured, and the opening in the skull was apparently being rapidly closed by a bony deposit. His treatment was practically nil. The diet was liquid for the first few days. A mercurial at the outset was all he had in the way of medication.

DR. BUCHANAN: I would like to say a few words on the subject of trephining. I think that Dr. Huselton had very distinct indications for his operation and it certainly was very successful. I think there are one or two points on the subject of trephining that may be dwelt on. The principal one is that the indications for trephining have entirely changed in the last few years. Formerly, there was a very great difference made between simple and compound fractures. Compound fractures were recommended to be trephined that would not have been considered proper subjects for trephining had they been simple. The presence of a simple depressed fracture, if the depression is slight, it is impossible to make out. A case of depressed fracture occurred in my practice a week ago, in which it would have been impossible for any one to make out the depression by external examination. On the following evening, when symptoms of compression came on, I opened the scalp and found the depression, removed a button of bone, elevated it, removed a clot of blood from beneath the bone, and put on a dressing. The patient afterward had no elevation of temperature, commenced to improve immediately, and is now practically well.

The second point that I would call attention to is that the secondary results of depressed fractures are very much better appreciated now than heretofore. The deficiencies in intellect and epilepsies justify more frequent resort to the trephine and elevator in simple fractures of the skull. A case may recover and pass outside of the surgeon's sight, but still be a bad result: six months, a year, or several years after, there may be a chronic inflammation of the membranes of the brain or some damage done to the brain by plastic effusion, which will result in epilepsy or other troubles. I would therefore think that Dr. Huselton, even if there had been no compound nature in this fracture, would have been perfectly justified in elevating it, and I would go even so far as to say that when a fracture of the skull is suspected, if there is even a suspicion of depression, an exploratory operation through the scalp should be undertaken, because if there is no depression, such an operation would not hurt the patient a particle, and if there is a depression, it is exceedingly important to know it and act accordingly.

DR. MUNN: In connection with Dr. Buchanan's remarks on trephining depressed fractures, I will take the opportunity to relate a case which I met in my practice a year ago in April. A man was thrown out of a wagon by a runaway horse, and on being picked up, a depressed fracture was discovered on the upper posterior corner of the right parietal bone. He was taken to his home and there the propriety of an operation was spoken of but it was declined by the friends of the patient. He passed out of my hands, went under the care of a homœopathic physician and eventually recovered after remaining unconscious for seven days; he had had hemorrhage from the nose and the ear. Now, after the lapse of eleven months, he presents a decidedly marked depression in the region of the injury, has double vision, slight paralysis of the right arm, slight paralysis of the

right leg, has some aphasia and a slight paralysis of the left side of the trunk. I think the case to-day presents every indication for operation, but the operation was not performed at the time it should have been. Since the injury, he has had two epileptic seizures, nothing of the kind ever having occurred to him before.

DR. HUSELTON: I endorse everything that has been said by Dr. Buchanan and Dr. Munn. I would also add, I think we are too apt to overlook the importance of a fracture of the skull: under modern antiseptic treatment, I think trephining a comparatively safe operation and in every case I think that where there is reason to suspect a depressed fracture of the skull, the trephine is a proper precautionary measure to be resorted to.

DR. W. P. MUNN presented a specimen, obtained from a cadaver of unknown history, of

ENTIRE ABSENCE OF THE INNOMINATE ARTERY. At its place of origin the two common carotids arise together, then the left subclavian is given off, and last arises the right subclavian, which passes towards the right, behind the other three vessels.

DR. BUCHANAN: I have a former patient present whom I wish to exhibit. His case I reported to the Society three or four months since. He is a man whose patella I wired. I have not before been able to present him to the Society: I wished to present him at that time, but, as I explained, he got out of my reach. I met him on the street some time ago and found that he had a very good result, and I thought I would show him to the Society. He was away from his laboring work just eight weeks.

(Patient exhibited.) You will observe that there is no separation whatever to be discovered between the fragments, and the joint movements are perfect. The limb is, to all appearances, as good as its mate.

DR. MURDOCH: Dr. Buchanan is to be

congratulated on the result of this case. So far as can be told by an examination of this man's leg, the union is perfect; there seems to be a bony union between the fragments. I say seems to be, because I do not believe it is so; I very much doubt if bony union ever takes place in a fracture of the patella, owing to the fact that many specimens have been thought to be bony, but when examined after death and the bones subjected to a process of boiling, it has been found the union was only fibrous after all. But if it is fibrous, it is just as good as if it were bony and just as useful, because there is no separation of the fragments, and by scarcely any other treatment could the two fragments be brought into such close apposition; but anybody who knows the difficulty of treating fracture of the patella knows how difficult it is to keep them in apposition, and that if they are not kept so, the patient is maimed for life. The only objection to this operation that can be raised is the danger of it, but under antiseptic precautions, where they are thoroughly carried out, it is probable that the danger will be but little, but it is a melancholy fact that, notwithstanding the perfection to which antiseptic dressings and surgery have been brought, this operation, even in the hands of the best surgeons, is frequently disastrous, that is the cutting down on the knee joint, freshening the edges of the bony surface and wiring them together. When I was in New York a year ago last spring, Dr. Sands told me of two cases that he had known where the patients had suffered amputation and had eventually died, where this operation was attempted, and only about a month ago, Dr. Stimson, at a meeting of the Academy of Medicine, in New York, stated that, during the past summer he had known three cases where an operation had been done in New York and the patients had in all three cases suffered amputation afterward, so that even in the hands of the best surgeons, and with the greatest care taken,

it is a dangerous operation, and surgeons have been endeavoring to find one that is less dangerous, that will accomplish the desired result; whether they will succeed or not remains to be seen. About three or four weeks ago, Dr. Stimson, after making the remarks I have stated, exhibited five cases where he had tied the patella together subcutaneously, and the procedure seemed to me so simple and so likely to be successful that I think it should be tried, and if it succeeds, it will be much simpler than this operation and, I believe, safer. The operation is so simple that I will just show it here on the blackboard, if I can. (Drawing made by the doctor on the blackboard, exhibiting the method of operating.) I tried this last Saturday on an old lady, sixty years of age. I am not able to do what Dr. Buchanan has done, bring my patient here, and perhaps I never shall be able to do so. The patient is perfectly comfortable, and so far as anybody can tell, after this short treatment, bids fair to have a good result. I do not bring this up to criticise Dr. Buchanan. I am very glad to have had an opportunity to see Dr. Buchanan's case, the first one, I believe, that has been operated on in our country.

DR. HUSELTON: I want to congratulate Dr. Buchanan on the successful issue of his case. I had the pleasure of being present when he operated, and am glad to say that I think the operation was very carefully and skilfully performed. At the same time, I do not believe the operation will ever become a popular one; I think that opening so large a joint as the knee-joint is too hazardous, and attended with too much danger, particularly when we are having very good results by the old method. I have had several cases, at least three or four, in my practice, the last one occurring about two years ago, treated by the old method, and the result everything that could be desired. I did claim the union was bony; however, I think this is not the case, but if ligamentous or fibrous,

it is almost impossible to detect the fact. I exhibited the case to at least one person here and would be glad to present the case to the society at some future time for their inspection.

DR. BUCHANAN: I am very glad Dr. Murdoch presented this new method of treatment. I considered that method shortly after I had done this operation. It was then first brought to my notice. It occurred to me that this certainly is a much safer operation than the open method, but it is open to two theoretical objections; whether they are real objections, time alone will tell. The first is that it will probably in a great many cases, if not the majority, be impossible to approximate the fragments exactly by this method. I should think the anterior borders of the patella, by this method, would be tilted a little backward, and that would keep the surfaces from coming together. In wiring a bone, it is sometimes a difficult matter to get the surfaces exactly apposed, even when you have everything open before you and are able to handle the parts, and of course it is very much more difficult when you are doing it subcutaneously. And the second objection that I would suppose to exist in regard to this method is, that the torn fragments of the capsule of the joint float in between the fragments. I believe it has been proposed to pass a needle in and hook these out from between the fragments. At all events, I should imagine from the case of this man, at least, that it would be very difficult to get these shreds from between the broken bones, and it is said by a number of good surgeons (Prof. Macewen was the first, I believe, to state it,) that this is a chief cause of non-union, or rather, of the failure of bony union in this fracture. In regard to Dr. Huselton's results, I think he is to be congratulated. I don't think that the result which he has mentioned is otherwise than exceptional in these cases by the non-operative methods of treatment.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN LARYNGOLOGY AND RHINOLOGY.

Meeting of March 26th, 1889.

COMPLETE BONY OCCLUSION OF THE ANTERIOR NARES DUE TO HYPEROSTOSIS OF THE FACIAL BONES.

DR. G. B. HOPE presented a case of this rare affection, occurring in a young girl, with an account of the operative procedures that were being carried out to secure a nasal passage. The occlusion of the nares was due to growth of the turbinated bones, but while other bones of the face had attained corresponding size and weight (the lower jaw being three-fourths of an inch in thickness and the roof of the mouth half an inch), the other passages and foramina of the skull did not seem to have been encroached upon, with the exception of the lachrymal canal, which had become obstructed first of all, and the Eustachian tube, which was enlarged and of bony hardness. The smell, sight, and hearing were good. She had some cough from pharyngeal catarrh, snored at night, breathed almost entirely through the mouth, and had frequent attacks of coryza. Her other functions were normal. Of nine children in her family, she was one of two living. Her breathing had always been difficult, and she had had two attacks of pneumonia and one of bronchitis. With the electric trephine Dr. Rice was making an opening, now nearly completed, through the pharynx.

DR. KNIGHT had seen thickenings of the palatal bones which about closed the posterior nares, but no case like the one presented. The slight impairment of nervous and other functions was remarkable considering the amount of bony growth.

ETHMOIDITIS—ATTEMPTED OPERATION.

DR. KNIGHT presented a patient upon whom he had operated on the right side, without success, to remove a soft red mass growing in the upper back part of the nasal fossæ. The affection had begun a year or

more previously, being ushered in by intermittent and then persistent headache, and being accompanied by loss of smell and taste. Acids had been without result; the cautery had made a passage, but it had soon closed up again; Weir's forceps had next been used, and had caused repeated discharges of pus, which applications of peroxide of hydrogen had not arrested as yet.

LARYNGEAL VERTIGO.

DR. S. T. ARMSTRONG, of the Marine-Hospital Service, read a paper with this title, in which he had collected all the recorded cases of laryngeal vertigo (sometimes called "epilepsy" and "syncope"), nineteen in number. He gave an elaborate review of the various theories which had been advanced to explain the occurrence of unconsciousness produced by laryngeal irritation. Cases had first been reported by Charcot. Dr. Lefferts and Dr. Gray had each published cases. Convulsions had in most instances been absent; in a few of the cases cited there had been movements. On emerging, the patient was not confused, and in one case it had been recorded that he would continue saying what the attack had interrupted him in. Local treatment of the larynx cured the whole trouble. These facts had led some to object to the term "laryngeal epilepsy," as not being properly descriptive. However, if we recognized that epilepsy might result from a scar or some persistent cause of irritation in any part of the body, it might not seem improbable that intense irritation of the superior laryngeal upon sudden sharp coughing might result in epileptoid unconsciousness by a direct effect on the brain. We need not suppose with some that the vagus and heart were affected primarily. Bromides had in some instances stopped the seizures. In a case occurring in the speaker's practice the attacks had been much favored by a condition of nervous exhaustion or the breathing of a vitiated atmosphere. Dimness of vision and

muscae volitantes preceded the attacks. The speaker preferred the term laryngeal syncope, as standing for a symptom of a functional rather than organic disorder.

THE CENTRAL TRACTS OF OLFACTORY NERVES AND THEIR DISEASES.

DR. C. L. DANA read a paper with this title, in which he presented some facts and views concerning the first cranial nerve that, as he believed, were new. The nose was treated by rhinologists mostly as a respiratory organ. Disturbances of the sense of smell were commonly disregarded by physicians and patients, but it should be remembered that this sense served useful purposes. It was our most delicate means of appreciating attenuated matter. In fishes something akin to a sense of smell, if not an identical sense, was well developed. In reptiles there was a fair development of the sense, and in birds scarcely any; but the highest development was seen in mammals, except those of aquatic habits, like the seal, in which it was nearly wanting. In the anthropoid apes it was not well developed, and in savages, the negro and Indian (contrary to the assertions of some writers), its development was not equal to that which it attained in civilized races. The Indian might be superior in acuteness of smell, but in the discrimination of different odors and the appreciation of flavors and their æsthetic associations the civilized man was as much the superior of the Indian as the latter was in advance of the anthropoid ape. In animals it served for sexual purposes, for selecting food, for hunting prey, and for avoiding enemies. In man it served for selecting food and drink, for arousing the sense of hunger, for warning him against injurious vapors, and for æsthetic and to some extent sexual purposes. Diminution in keenness of olfaction was found present in the criminal, lunatic, idiotic, and degenerate classes in society. The olfactory sense in man was growing, and fortunately so, for every avenue which carried new im-

pressions to the brain helped to develop it. He believed that the sense of smell and taste would one day be cultivated in children as a means of causing them to grow up with greater keenness of mind and larger capacity for discrimination and for æsthetic enjoyment. The sense of smell had always been appealed to in religious rites, and women instinctively learned that to exhale a delicate perfume added to their sexual attractiveness. He had lately observed anosmia in a number of neurasthenic patients, which was often independent of a catarrhal state, and he believed that, like asthenopia, it occurred in both neurasthenia and hysteria. In testing for smell he used ten phials, containing from one one-hundred-and-sixtieth to six-tenths of a grain of vanilline.

At this point the paper enters into an elaborate discussion of the anatomy of the olfactory nerve. In closing the paper the speaker said that he had constructed a qualitative olfactometer for testing the sense of smell much as we tested color-sense or appreciation of musical pitch, consisting of two sets of phials. In the first set were the monatomic alcohols of gradually increasing molecular weight (methyl, ethyl, propyl, and amyl alcohols), and also increasingly pronounced odor; and in the second set were the fatty acids (formic, acetic, propionic, butyric, and valeric acids), whose odor varied from a purely acetic smell to one in which flavor alone was present. A person with a normal sense of smell should be able to distinguish each of those odors and their relative place in the series. Some might be found having a keen sense of smell but odor-blind, just as we found people with keen vision who were color-blind.

Diseases of the intracranial olfactory tracts occurred in locomotor ataxia, general paresis, senile decay, and (of a functional sort) in hysteria. Olfactory neuritis was rare. The tracts might sustain injury in various ways, as from tumors, thrombi.

hæmorrhages, and meningitis in the adjacent pia. Syphilis was probably the leading cause of anosmia.

He believed tests of the sense of smell might aid in the diagnosis of central organic diseases of the brain after the rhinologist had determined that there was no nasal condition affecting the peripheral end-organs of the olfactory nerve.

The CHAIRMAN, who with others discussed the nasal causes of loss of smell, said that, where it was due to hypertrophied conditions in the parts or to polypi, recovery might be brought about, but not after the atrophic stage had been reached.

THE OBSTETRICAL SOCIETY OF BOSTON.

Meeting, February 9, 1889.

DR. J. S. GREENE, of Dorchester, read a paper entitled

SOME USES OF THE VAGINAL TAMPON IN OBSTETRIC ART.

The following is a brief abstract of the paper:

The soothing and moderating influence of the vaginal tampon in dysmenorrhœa and menorrhagia, and the relief which it gives in reflex nervous disorders in cases of pelvic irritation, has suggested its use in cases in obstetric practice, and the report of the following cases is offered in the hope of eliciting accounts of similar cases.

The tampon as I have applied it for purposes here cited has generally consisted of the flattened disks of absorbent cotton moistened with glycerine such as are used in gynæcology. The patient lies on her left side and these pieces, held in the grasp of long, slender forceps, are successively introduced by the right hand, and are guided to their place and adjustment by one or two fingers of the left hand in the vagina. When placed, these pieces form a layer upon the posterior vaginal wall from the cul-de-sac to the verge of the outlet, where they are sustained and secured by a larger piece on either side of the urethra

behind the os pubis. No strong pressure is applied in packing, the guiding finger is preferred to the speculum, no undue distention of the vagina is produced, and the packing is no firmer than is thought to be needful to prevent it from being easily forced out.

The degree of firmness required for this purpose is sufficient to impart considerable support to the uterus and at the same time is comfortable to the wearer. The tampon as thus used has no correspondence except in name with that packing of the vagina in use to control hæmorrhage during abortion. With or without good reason the latter proceeding has the reputation of promoting the evacuation of the uterus by stimulating uterine contraction; but it does this, if at all, by imprisoning the flow, distending the vagina, and pressing downward the perinæum.

On the other hand the effect of the tampon as I now advocate it is to increase the secretions, while not hindering their exit, to allay irritation, relieve engorgement, and impart just that degree of support without distention which promotes, rather than opposes, comfort.

When hæmorrhage appears in the course of pregnancy I find the tampon, thus applied, a valuable resource for arresting instead of advancing a threatened abortion.

Rest in bed, aided perhaps by an opiate, or perhaps by hot douching, will often suffice to avert the mischief: but what if the patient does not see the necessity of these precautions, and insists on going about?

A young woman half-through the period of her first pregnancy came to my office, having had flow enough to continue occasional change of napkins for a fortnight. The cervix uteri was flaccid and widely patulous up to the internal os, and the cervix and vagina were catarrhal. She also had reflex symptoms, especially vomiting. I painted the cervix inside and out and the roof of the vagina with a strong solution of iodine, and put in a vaginal tampon firm

enough to contribute some support to the uterus. A few days later these proceedings were repeated at my office. Entire relief of all the symptoms, both local and reflex, followed this treatment: and the patient kept safe and sound to the end of gestation.

During the night of August 30, 1887, I was called to care for a young woman with a sharp attack of secondary hæmorrhage after confinement. She had been comfortably delivered of her third child eleven days previously. She was tall, rather spare, inclined to anæmia, and had been overworked. I could recognize no exciting cause. Delivery and subsequent care had been conducted antiseptically, and I was confident that the placenta and membranes had been wholly expelled. This attack ceased, and if any lochial discharge continued it was without odor.

She was given ergot and quinine and douched with hot water. A week later another hæmorrhage occurred. I then resorted to the vaginal tampon, renewing it twice in the ten days next following. The patient had no further trouble.

I cannot assert that in either of these cases the same favorable course would not have been exhibited if no tampon had been used. I only mention them as experiences which strengthened in my own mind the good opinion I had formed *a priori* of the tampon as an available resource in obstetric practice, and as illustrations of certain conditions wherein its use seemed suggested by analogies derived from gynæcological procedure.

For many years I have highly valued the hot vaginal douche in cases of this kind. I have never found any good from medicines, and I do not believe in stretching the cervix uteri.

From recent experiences I have come to the belief that the vaginal tampon as an alternative or substitute for the douche, is an invaluable resource. Its combined depleting and supporting influence at once removes reflex irritability, enabling the

stomach to do its full duty, and permits walking and other forms of exercise with the minimum of fatigue, thus securing the two great essentials of good nutrition.

The last case which I shall present as illustrative of the obstetric uses of the tampon is a typical instance of the class of patients above denoted.

Mrs. Y. is of light blonde complexion, twenty-two years of age. Six years ago she relinquished systematic study for want of strength, and was for some months under my guidance for neurasthenia. She improved but continued easily susceptible of fatigue; married in October, 1886.

Went to Europe and returned in October, 1887, with symptoms of pregnancy.

Nausea and vomiting became troublesome, headaches followed, and the shadow of impending prostration darkened the background of the prospect. Vaginal douches were used and one or two medicines tried before October ended; but no advantage was gained. The vaginal tampon was resorted to November 1st, in the eighth week of pregnancy, and its good effect was immediately manifest.

She resumed her daily walks, retained her food, improved in appetite, and slept better. The tampon was renewed at intervals of five to seven days for nearly five weeks. When discontinued it was with the purpose of resuming its use if any retrograde tendency should be noted; but the advantage gained proved a lasting one. She had entered upon the fourth month of her pregnancy, and taught by much experience of weakness to be prudent and to carefully follow a prescribed policy, she passed safely, and on the whole comfortably, through the subsequent months of gestation.

DR. ABBOTT asked whether the tampon was used empirically or for the purpose of supporting the uterus.

The reader replied that it acted partly as a depleting agent, relieving engorgement, and partly mechanically as a support.

DR. DAVENPORT said that he was very much interested in the paper, as he had very recently been engaged in enumerating and formulating the various uses of the tampon in gynecological practice. These obstetrical uses of the same agent had not occurred to him at the time, but they completed the consideration of the subject. Most of the uses spoken of were rational, and might be used with great benefit in the conditions named. Of especial value was the use of the tampon in the early months of pregnancy, to allay vomiting, and relieve pressure. Even where the vomiting was not excessive but only annoying, he thought a light tampon might afford great relief. The depleting effect of the glycerine would not in his opinion be sufficient to do any harm by interfering with the circulation of the uterus.

He had recently had a case illustrating the value of this method following miscarriage. The patient had miscarried on January 10, and had kept quiet for ten days without any unpleasant symptoms. She resumed her business, which was that of a fashionable dressmaker, and in a few days came complaining of backache and slight hæmorrhage. Dr. Davenport found a heavy retroverted uterus, with a badly lacerated cervix, and with a small amount of blood and mucus exuding from it. Twice packing with the glycerine tampon checked the flowing, restored the uterus to its normal position, and relieved the backache. Then a pessary was applied which will be worn until the cervix is repaired, which will be in the course of a few months.

In reply to a question by Dr. Richardson, the reader said that he had used the tampon in the case reported of threatened miscarriage at the fourth month, not as a plug to stop hæmorrhage, but to give support to the uterus, and relieve the existing inflammation of the mucous membrane, and that its use was to a certain extent empirical.

DR. RICHARDSON had never used it in these cases, and would think that the pack-

ing might start up pains, or, by causing a backing up of blood, there might be danger of separation of the placental tissue from the uterus. He had used the tampon during pregnancy only for the purpose of relieving nausea and vomiting. He had recently been interested in some German accounts, where the uterus itself was packed with iodoform gauze.

DR. GREEN said he could well believe that a light, medicated tampon might sometimes be of service in various affections of pregnancy, either for obtaining the derivative effect of glycerine, or for healing erosions or diminishing undue sensitiveness of the cervix. But applied to the extent of affording appreciable mechanical support, he believed the tampon was an unsafe expedient. He had himself, when a hospital house-officer, induced an abortion in a patient not supposed to be pregnant, by applying a tampon to raise a retroverted uterus. And he believed one of the most effective means of exciting uterine contractions was distending the vagina with tampon or colpeurynter. He inferred, therefore, that the reader could not have employed the usual gynecological tampon; and that his good results were attributed to local medication, and not to mechanical support, which implies a certain amount of vaginal distention.

The reader agreed with Dr. Green, that in the case of distention of the vagina by the tampon there would be risk of inducing labor, but said he had no hesitation in using the tampon in the manner described by him in any parturient case.

DR. COTTING then read a paper entitled

THE LIE OF THE FÆTUS.

DR. ALFRED WORCESTER, of Waltham, read by invitation a paper entitled

A SERIES OF TWO HUNDRED CONSECUTIVE CASES OF MIDWIFERY IN PRIVATE PRACTICE.

DR. HOMANS showed a fibroid tumor of the uterus, weighing eight pounds, removed by hysterectomy, with recovery.

Also the fallopian tubes from a case of salpingitis removed entire. The tubes were each about seven inches long, and one and three-fourths inches broad, distended with pus.

DR. SINCLAIR reported

A CASE OF PARTIAL RETENTION OF THE MENSTRUAL EXCRETION BY A MEMBRANOUS OCCLUSION OF THE OS UTERI.

On the 13th of October last a lady consulted me about menstrual disorder. From the 25th of December, 1887, the date of her delivery, until about the same date in September, 1888, a period of nine months, her menses failed to appear, although she had sensation of being unwell from time to time, which gradually died away without any visible discharge. At this time she had a gush of blood from the vagina which lasted two, or maybe three hours. At the time of her visit on October 13, 1888, there was a slight, brownish, mucous discharge from the vagina. Her general condition seemed good. Appetite, bowels, sleep, and kidneys well. No complaint made of pelvic organs. On tactile examination, I found an enlarged and boggy cervix uteri, and a heavy uterine body. The examining finger was stained with a light brownish substance. The question of pregnancy naturally occurred to me. Specular examination revealed an unusual state of things—an orifice of the size of a cambric needle from which exuded a stringy substance, which I at first mistook for the product of an abscess. Into this small opening I passed a small probe, at the same time pressed the speculum against the cervix uteri, with the result that more of the substance referred to was squeezed out. On further advance of the probe, I found that it entered freely into a cavity of unknown depth. I then made free incision with a bistoury, followed by a gush of four or even more ounces of a grayish, stringy fluid, mucus, and blood. I simply incised the occluded os uteri. The uterus measured over four

inches in depth. The uterine cavity was washed out and the parts thoroughly cleansed by a solution of corrosive sublimate.

The after treatment of such a case was obvious, and may be summed up in the prevention of recurrence. It would seem to one not acquainted with the behavior of such cases that little else than that I had done was necessary. My experience is that of others, that the tendency to recurrence of occlusion of the os uteri in such cases is constant and demands care. The treatment consisted in dilatation with the uterine dilator, and by iodized phenol to the endocervix. The uterus is now three inches in depth, and the catamenia have become regular. The patient may need watching. Cases of this kind are not common, and in thirty years only four have come to my care.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, February 18.

THE PRESIDENT IN THE CHAIR.

Dr. N. H. PIERCE read a paper entitled
THE BACILLUS OF KOCH AND ITS
PATHOLOGICAL INFLUENCE.

It has taken practically over twenty-two years to develop the exact pathology of tuberculosis. Since 1865, when Villepin proclaimed that by vaccination with tuberculous matter an identical process like that of human tuberculosis could be produced in some of the lower animals, the contagious and infectious character of tuberculosis was partly believed or assumed by many. This, however, does not detract from the brilliancy of Robert Koch's discovery of the specific cause of tuberculosis, nor does it alter the fact that this discovery is unquestionably the most significant advance made in pathological investigation. Before Koch's memorable communication to the Berlin Physiological Society the "cheese infection theory," as explained by Buhl, and the weakly "dia-

thesis theory" strove for supremacy as the disguise for real ignorance as to the true cause of the tubercular process.

The student who desires a plain statement of the condition of our knowledge of tuberculosis before Koch's investigations can find one in Klein's paper in the Practitioner for August, 1881. The results of Koch's investigations have been confirmed by many investigators. The result of this knowledge is used in our every day practice as data upon which we base diagnosis and treatment. The specific character of the micro-organism named by Koch, the bacillus tuberculosis, has been established.

It consists of a cell wall inclosing a protoplasmic body called mycroprotein. It belongs to the smallest and finest bacillary forms known to us. Only the bacillus of mice septicæmia surpasses it in fineness. The length of the single rod ranges from one and one-half to three and one-half in.—equal to one-fourth to three-fourths the diameter of the red blood corpuscle, and their width is from one-fifth to one-sixth of their length. The ends of these rods appear to be rounded. The bacilli arising from an artificial culture fluid are in general shorter and finer than those growing in the animal organism. The largest forms are found in the sputum of phthisis.

The bacillus tuberculosis is quite able to endure the influence of any or all of the digestive secretions of the animal organism, and especially those of the stomach, as was proven by Falk in his artificial cultures and by the positive results obtained by Schell and Fischer in their feeding experiments. The tuberculosis bacillus has a very great resistance comparatively to the action of all disinfectants. Thus the tuberculosis bacillus were destroyed only after twenty hours' contact with a three per cent. carbolic acid solution. This latter substance is, therefore, not to be relied upon, especially in the disinfection of

tubercular sputum, in solutions of less than five to ten per cent. Another fact of some importance is, that corrosive sublimate is not applicable in disinfection of sputum; not because of a resistance on the part of the tuberculosis bacillus to this most powerful germicide, but because it *curds* the sputum, thus materially hindering the complete mixture of the solution with all parts of the sputum. Practically we have no destructive agent that can be compared to heat, and especially moist heat, and this should be employed wherever possible.

This bacillus may gain an entrance into the human body in one of three ways: First, by respiration; second, by alimentation, and third, by inoculation. The subsequent pathological varieties will depend, first, upon the conditions of the tissues of the individual; second, the place of invasion, and the vitality or degree of malignity of the bacilli invading.

The bacillus tuberculosis never forms pus; only when the so-called tubercular granulation tissue has become infected with the staphylococcus, or streptococcus, can true pus be formed. The contents of a purely tuberculous abscess contains only a few round cells, but an amorphous shreddy material the result of the digestive power of ptomaines secreted by the bacillus tuberculosis upon the granulation tissue.

DR. L. L. McARTHUR read a paper entitled

SURGICAL TUBERCULOSIS OF BONES.

In the department of osseous pathology, as in every other branch of our science, there has been made, during the last decade, such progress in our knowledge of the etiology and treatment of bone-diseases as to revolutionize the theories we have held, and offer to us in their place facts, fixed and incontrovertible, which have the impress of truth upon them, as well as the proof of actual experiment. Nor is it strange that with no exact knowl-

edge of the ultimate causation of inflammation that theories nearly as numerous as the authorities devising them, filled our text books with vague terms to suit each writer's fancy, as well as multiply synonyms for the relatively few forms of bony inflammation; just as in the department of medicine there was a time when a diagnosis of "dropsy," "Bright's disease," or salt rheum, was esteemed sufficiently refined, though they were only results; so, until recently, we were content with an equally indefinite *result*, caries, or necrosis, which simply signifies molecular death, and death en masse. Without the slightest hint as to causation; with many theories existing there was naturally enough, great ignorance of and mystery surrounding all bone inflammations until nature solved the question for us in the result, caries or necrosis. Recently, however, there has come to us new knowledge; new facts that render clear what was obscure. Shall we permit the old ideas to be replaced by these new facts?

In considering tubercular bone disease, one or two anatomical facts have a distinct bearing on the subject in question, and on a thorough understanding of osteitis.

First. That the periosteum, endosteum, and medullary substance are as one, and inseparable as the peritoneum is in its various folds and turns, for the one is connected with the other by numerous blood vessels and processes, which form the union between the outer and inner membrane, as well as with the outer surface of the bone.

Second. That the seat of greatest vascularity and slowest circulation are in bones, the site of their diseases, and these are in cancellated or at junction of epiphyseal cartilage.

Third. That the nutrient artery of bones of the upper extremity run *toward the elbow*, while from the knee in the lower extremity. Now it follows that

since the calcareous matter in bones only plays a passive part in any of its inflammations, there remains only its vascular skeleton, the peri and endosteum, which are only continuations of one and the same tissue, to play the active part, and since this is the source of nutrition, just so far as the function of this is interfered with just so far will we have a caries or necrosis as a result, with this difference: that whereas the products of inflammation in the periosteum can find a means of escape and thus relieve the pressure which is cutting off the nutrition of that portion of bone thus dying, inflammations of the other portion of the nourishing membrane being within an unyielding wall, any inflammation there, cuts off the nutrition of greater masses, hence gives rise to much greater constitutional disturbance, and in its efforts to escape from the confined pressure, always ends in osteitis and periosteitis.

Just here begins, from former ignorance of the cause of bone inflammation, part of the "distinction in terms without a difference," for whether it be an inflammation of the medulla, the endosteum, or periosteum it is practically an osteitis, and since there is no hard and fast boundary line between the medulla, the endosteum, and the periosteum, to make a distinction is only to confound and not to enlighten. Hence the terms endosteitis, periosteitis, and osteo-mylitis are in their pathologic nature synonymous, though differing in location. The latter is now used synonymously for all. In every bone inflammation we have two or all of three factors taking part in its production.

First. Trauma, whether from blow, cold, mineral poison or fevers.

Second. One or more of the organisms which induce suppuration.

Third. One of the organisms which induce tuberculosis, syphilis or rheumatism.

"In bone inflammations, the importance

of the presence of micro-organisms can not be over-estimated," as to the casual relation they bear, while the species to which they belong determine the nature of the inflammation. When any of the organisms which induce suppuration are present, an osteo-mylitis results. When the tuberculous bacillus, syphilitic, or rheumatic organism, then an inflammation peculiar to that organism ensues. Now these things are settled, namely: That whenever micro-organisms are caught as infarcts in a tissue, they induce those pathologic changes in it which characterize that particular species.

There are often in the circulation, wholly compatible with a healthy condition, one or more of those germs whose actions on the tissues are noxious; but which without some traumatism are wholly, thanks to the leucocyte, unable to escape from their death in some of the eliminative organs, to which the blood current is hurrying them. Let, however, a lesion of any of the vessels or capillaries through which these might flow occur—a stasis even—it then becomes possible for them to wander out with or in the leucocyte, where the latter dying permits and encourages the growth of the germ in question, and all the evil consequences which this implies.

There are some peculiarities about the trauma permitting the infection. Slight traumas are frequently followed by tuberculosis; while severe injuries are not. The active reparative process in the latter case preventing the slower tuberculous process, for if there be a characteristic of bone tuberculosis that takes the precedence of all others it is its slow, and chronic nature.

Though a direct injury is a frequent element in the primary infection, the other modes of ingress are numerous.

Volckmann, the greatest living authority on tuberculosis, says that everything that heretofore has been called caries of bones,

spina ventosa, pædarthrocace, belongs, with exceeding few exceptions, to tuberculosis.

Knowing the nature of tuberculosis better than before, we are now making every effort to totally and completely remove when operating the smallest suspicious focus, and as in operations for carcinoma, to repeat our work at the earliest evidence of a return. When the infective matter has been once thoroughly removed the chances of a return are not great, though it does occur sometimes in other parts—Billroth stating the proposition that if there has been an early tuberculosis, there will be a return by the age of fifty. After operations for tubercular bone disease, too, there has ensued a general miliary tuberculosis. This, however, is as rare as that other phenomena of bone surgery—fatty embolism of lungs.

It is useless to deny the spontaneous cure of tubercular osteitis when we have so many cases of spina ventosa, Pott's disease and tumor albus that have recovered without treatment. It is useless to deny the tuberculous character of an affection when a successful inoculation has been practiced.

The tubercular diathesis does not offer a just objection to operative interference.

Iodoform is the mainstay and sheet-anchor in after treatment.

Special Meeting, February 27.

DR. F. E. WAXHAM presented a patient wearing both an intubation and a tracheotomy tube with very little discomfort, the only annoyance being the necessity for changing the tracheotomy tube once or twice a week.

The case was interesting on many accounts: First, on account of the age of the patient. Laryngeal growths are very uncommon in children, but when met with they are almost always benign and papillomatous in character. Papillomata of the

larynx are rarely met with in a child so young as this one, being only $2\frac{1}{2}$ years of age when the first operation was performed for papilloma, now being about 3 years old.

The history of this case was interesting also as showing the great tolerance of the larynx for laryngeal tubes.

DR. H. GRADLE read a paper entitled *

REPORT OF A CASE OF TRANSPLANTATION OF THE SKIN FOR THE CURE OF ECTROPIUM,

which appeared in the March number of THE JOURNAL AND EXAMINER.

DR. HORACE M. STARKEY presented

A CASE ILLUSTRATING WOLFE'S METHOD OF SKIN TRANSPORTATION, WITH REMARKS,

the patient having received burns on October 27th, 1887, by explosion of a tank of varnish which was being boiled in the process of manufacture. His head, face, neck and hands were badly burned. Over six months from the receipt of the injury elapsed before any attempt was made to lessen, by operative measures, the great deformity that had been occasioned.

May 3d, 1888, an attempt was made to improve the position of the right lower lid as follows: A curved and pointed flap of integument 2.75 millimetres ($1\frac{1}{8}$ inches) broad at the base and 13 centimetres (5 inches) long on its convex border, was raised from its bed, and while not detached at the base was revolved in such a way as to raise the lid to its proper position. This left an uncovered surface 1.5 centimetres ($\frac{3}{8}$ inches) broad and 8 centimetres (3 inches) long. To cover this a piece of skin somewhat crescent-shaped 14.5 centimetres ($5\frac{3}{4}$ inches) on its convex border and 2.5 centimetres (1 inch) broad was detached from the inner side of the forearm and placed like a picture in a frame on the denuded surface. Only a part of this transported portion retained its vitality permanently. There was no sloughing, but part became mummified and seemed to dissolve in the second week.

The failure of most of this graft to finally live is perhaps due to a fault in the details of the operation, of which I will speak later. Owing to the failure of part of the graft the improvement which at first was very considerable was not very marked after the lapse of three or four months.

July 21st, 1888, the ectropium, which was not extreme, of the left lower lid was corrected by the operation devised by Wharton Jones.

After seven months from the continued contraction there is now a slight separation of the lid from the eyeball.

The second operation upon the right side was performed October 31st, 1888, and consisted in freeing both eyelids from the cicatricial bands holding them, dissecting out some of the most dense of those bands, restoring as nearly as possible the lids to their normal position, and transporting from the forearm pieces of skin large enough to fill the deficiency. The transported graft for the upper lid was 5 centimetres (2 inches) long by 17.5 millimetres ($\frac{3}{4}$ inch) broad, and that for the lower lid was 7.5 centimetres (3 inches) by 2.5 centimetres (1 inch). These both retained their vitality perfectly and now constitute part of the skin of the corresponding parts and can scarcely be distinguished from the surrounding tissue.

While the improvement from this operation was very marked and has remained permanent for the upper lid, the lower lid was gradually everted until the ectropium amounted to about 12.5 millimetres ($\frac{1}{2}$ inch), and January 7th, 1889, another transportation was performed. In this instance the graft was 5.5 centimetres (2 $\frac{1}{4}$ inches) by 2 centimetres ($\frac{2}{3}$ inch). The lid is not in close apposition with the eyeball, and it is doubtful if it can be made to assume that position permanently, but the improvement in appearance and in the comfort of the patient is very great.

HARVEIAN SOCIETY OF LONDON.

Meeting Held March 28, 1889.

THE PRESIDENT, THOMAS BUZZARD, M. D.,
F. R. C. P., IN THE CHAIR.

INGUINAL VERSUS LUMBAR COLO TOMY.

By HARRISON CRIPPS, F. R. C. S.

The author, after giving an account of the history of colotomy, and drawing attention to the improvements in detail, introduced by Mr. Bryant and Mr. Davis Colley to the lumbar operation, further called attention to how much the profession was indebted to Mr. Reeves, Mr. Lawson Tait, Mr. Chavasse, Mr. Allingham and others for re-introducing the inguinal or intra-abdominal method of opening the bowel. After quoting Erekelen's and Batts' statistics, published in 1854, of several hundred cases of colotomy, collected from various sources, with a mortality of between 40 and 50 per cent., showed that such statistics were entirely misleading, and how with improved methods and hygienic surroundings the mortality might be immensely reduced. Of Mr. Harrison Cripps' own cases 15 were performed in the lumbar region, and 22 in the inguinal, nearly all the cases being undertaken for malignant disease. There was but a single death in each series of cases, thus the mortality was only a trifle over 5 per cent. Mr. Harrison Cripps, after thus vindicating colotomy as a fairly safe operation, proceeded to compare the inguinal with the lumbar method, stating that he considered the former vastly superior.

There were certain grave objections to the lumbar operation, amongst these were enumerated the depth of the bowel in a fat subject, the very limited space in which the surgeon had to work between the crests of the ilium and the last rib, which made it often difficult to find the bowel without severe damage to the surrounding tissues. Then, again, there was often a difficulty in recognizing the colon, so that numerous mistakes had been made in opening the

small intestine, and even the stomach. But perhaps the gravest objection of all was that it not infrequently occurred that the course of the colon was so abnormal as to make it quite impossible to find it by the lumbar wound, the attempted operation ending in a fiasco. On the other hand, the inguinal operation met all these objections. There was plenty of space, the bowel could be absolutely identified, there was no tension on the stitches, and little difficulty in finding an abnormal colon. Moreover, the inguinal method had one great advantage entirely of its own, by enabling the abdomen to be explored and the site of the obstruction to be verified before opening the bowel, so that the mistake of being below the lesion could not occur. This was illustrated by two cases given in the table.

The objections raised to the inguinal operation were subsequent prolapse of the bowel, and that it was not suitable for urgent cases. In the author's experience prolapse was not more frequent from the one opening than from the other, and by a little care in the inguinal operation it could to a great extent be avoided. As to urgent cases he had no hesitation in opening the bowel immediately, as was done in two instances narrated with perfectly successful result. Mr. Harrison Cripps then described in some detail the operation he performed for inguinal colotomy. The incision, two inches and a-half in length crossed an imaginary line drawn from the anterior-superior spine to the umbilicus an inch and a-half from the former bony part.

In making the incision the skin should be drawn a little inwards, so as to make the opening somewhat valvular. The peritoneum being reached, it is pinched up by fine forceps, and an opening made sufficient to admit the finger. The intestines being protected by the finger, the peritoneum is divided by scissors to nearly the full length of the cutaneous incision. The colon may now at once show itself, and can easily be recognized by its longitudinal bands, its

glandulæ epiploicæ, and by its regular convoluted surface. In about a third of my cases the large intestine presented at once; in the others either the small intestine, omentum, or mesentery first appeared. If any of these latter present, they must be pushed back and the colon sought for by the finger. Sometimes it can be detected by the hard scybalous masses within it, or it can be traced up after passing the finger into the pelvis and feeling for it as it crosses the brim.

The colon being found, a loop of it is drawn into the wound. In order to avoid the prolapse which is likely to occur if loose folds of the sigmoid flexure remain immediately above the opening, I gently draw out as much loose bowel as will readily come, passing it in again at the lower angle as it is drawn out from above. In this way, after passing through one's fingers an amount varying from one to several inches, no more will come. Two provisional ligatures of stout silk are passed through the longitudinal muscular band opposite the mesenteric attachment. These provisional ligatures, the ends of which are left long, help to steady the bowel during its subsequent stitching to the skin, and moreover, are useful as guides when the bowel is ultimately opened. They should be about two inches apart.

The bowel is now temporarily returned into the cavity. With a pair of fine forceps the parietal peritoneum is picked up, and attached to the skin on each side of the incision, the muscular coats of the abdominal wall not being included. Four sutures of fine Chinese silk are sufficient, two on each side, an inch and a half apart.

The bowel is again drawn out, and fixed to the skin and parietal peritoneum by seven or eight fine ligatures on each side, the last suture at each angle going across from one side to the other. The bowel should be so attached as to have two-thirds of its circumference external to the sutures. By turning the bowel slightly over, the

lower longitudinal band can be clearly seen, and it is best to pass the sutures for the lower side through this, since it is a strong portion of the gut. The upper longitudinal band through which the provisional ligatures have already been passed is seen in the middle line of the wound. The bowel being now turned downwards, the opposite line of sutures are inserted close to its mesenteric attachment. No longitudinal band can, however, here be seen. The sutures, of the finest Chinese silk, are passed by small, partly curved needles, the needle passing through the skin one-eighth of an inch from the margin, then through the parietal layer of the peritoneum, and, lastly, partly through the muscular coat of the bowel, great care being taken to avoid perforating the mucous membrane. It is easier to pass all the threads before tying them up.

The wound should be most carefully and gently cleaned; the threads can then be all tied with moderate tightness. If the case is urgent, the bowel may now be opened; if not, a piece of green protective is put over it, a necessary precaution to prevent the granulations adhering to the gauze. The whole is covered with an antiseptic dressing, an additional thick pad being placed over the site of the wound. A broad flannel bandage is then wound firmly around the abdomen, so as to ensure considerable pressure. This is a most important precaution, for, should vomiting occur, the bowel is likely to burst away from the stitches. I also insist on the nurse sitting by the patient, with directions to press her hand firmly over the wound should sickness occur. When the patient becomes sensible, he can do this for himself. The wound is best dressed on the following day, to make sure that nothing has been misplaced.

If all goes well, the dressings may be reapplied, and the bowel not opened till the fifth or sixth day. The bowel being insensible, no anæsthetic is required. It

will usually be found covered with a layer of lymph of surprising thickness. The provisional ligatures which have been left in will be found a useful guide, the bowel being opened to the full length between them. The superfluous flaps on either side are trimmed off with scissors to the level of the skin. In doing this one or two vessels require to be tied.

All ligatures may be safely removed by the ninth day, or earlier if there is redness around them. Firm pressure with a pad and bandage will be required for some time later.

He considered that it was a mistake to use too many sutures, this causing unnecessary strangulation of the skin, and preventing primary union. He saw no advantage in the suture passed through the mesentery, and had no difficulty in obtaining an excellent spur by attaching the bowel so that two-thirds of its circumference were above the level of the sutures.

The question as to when the bowel should be opened was considered as an important one. The author preferred to wait until the fifth or sixth day if all went well, but if the belly became distended, or there was the slightest vomiting, it should be opened at once. Firm pressure by a pad and several turns of bandage was very important for the first few days, for, with any strain on the part the bowel was liable to burst away.

The subsequent inconvenience arising from the new anus was but slight, the patient usually having a motion once a day with the knowledge of when it was coming, and power of controlling it by pressure.

In conclusion, Mr. Cripps stated that he considered the inguinal operation as now conducted was a marked advance in surgery, and he believed that before long the lumbar operation would be merely retained for a few exceptional cases of complete obstruction, and, moreover, now he trusted that it could be shown that the mortality was little more than 5 per cent., that sur-

geons would have more confidence in the operation, and would recognize its great value as a means of relieving suffering and threatened obstruction in advancing cases of malignant disease of the lower bowel.

In the discussion that followed,

MR. ALFRED COOPER said that during his twenty-five years' service as one of the surgeons to St. Mark's Hospital he had done and seen done many lumbar colotomies. He had ever felt most dissatisfied with the operation for the reasons mentioned by Mr. Cripps, and also for the difficulty experienced in maintaining cleanliness. Since Mr. Herbert Allingham's introduction of a modification of Littré's operation, Mr. Cooper had performed none but inguinal colotomies. He had found, however, that the omission of the deep suture had led to the passage of *fæces* into the lower gut.

MR. JACOBSON had of late been disappointed with inguinal colotomy. He had found a great amount of prolapse after the operation. He showed a patient, *æt.* 28, for whom he had performed lumbar colotomy just two years before. The artificial anus acted twice daily, and there was next to no prolapse. She was able to do household work. If inguinal colotomy is to become frequent, the lumbar operation, he thought, had still an eminent advantage for young married women. He believed also that the inguinal operation was undesirable in cases of sigmoid cancer, for it must here necessarily be performed near to the seat of disease. The frequency of cancerous disease of the sigmoid flexure was, he thought, under-estimated. His late colleague, Dr. Fagge, had shown that out of 100 cases of malignant disease of the large bowel, the seat of disease was in 4 cases the cæcum, in 10 cases the ascending colon, in 11 cases the transverse colon, and in 15 cases the descending colon, in 30 cases the sigmoid flexure, and in 30 cases the rectum. He still thought it a serious matter to open the peritoneum, as was necessary in performing the inguinal

operation. The dangers of interfering with this membrane might be diminished, but never abolished, and that operation should be preferred which did not necessitate such a procedure. Mr. Jacobson wished to point out that when discussions such as this were published, operators less expert than those present were tempted to perform the operations described, upon patients in cottage hospitals and similar institutions, and he believed that to such operators the dangers of inguinal were greater than those of lumbar colotomy. Lastly, it must be remembered that the patient subjected to colotomy was often suffering from a mortal disease, and for such the gentler operation should be chosen. This he believed to be the extra-peritoneal operation. In performing the operation he believed it desirable to make a large opening, for the prolapse which might possibly follow was a lesser evil than the access of *fæces* to the lower portion of gut, such as occurred often when a small opening was made.

MR. SWINFORDE EDWARDS thought Mr. Jacobson's case a most favorable one. He had found prolapse quite as great in lumbar as in inguinal colotomy. He believed carcinoma of the sigmoid flexure to be very rare compared with that of the rectum. He was of the opinion that the advantages of inguinal over lumbar colotomy were four in number. It was easier of performance, the desired portion of the bowel was more easily found, the artificial anus was more conveniently placed for the patient, and also when there was considerable distention of the abdomen, the danger of turning the patient over was avoided. He had done 18 colotomies himself in the past two years. From this experience he thought it important to make a small abdominal incision to avoid prolapse of the bowel and of the abdominal contents. He considered the deep suture of importance as assisting in the formation of a spur. He believed it most important to cover the wound with green protective, as Mr. Cripps had advo-

cated. It was also essential to give adequate support after the operation. The want of this in one of his cases had led to prolapse of the great omentum. He left this alone, and it gradually shrank away. He advocated inguinal colotomy as modified by Mr. Herbert Allingham in all cases requiring colotomy, even in those of acute obstruction, and he believed that extravasation of feces into the peritoneum could in all cases be prevented.

DR. BALL, of Dublin, believed that Dr. Cripps had made out a good case for the intra-peritoneal against the extra-peritoneal operation of opening the colon. He further thought it impossible in such an operation to open the intestine below the stricture, as he had seen done in the lumbar operation. He believed that a modification of the operation might completely cut off the access of feces to the cancerous portion of intestine. He thought, too, that the union of bowel to skin might be more easily brought about in front than behind on account of the thinness of the skin in the former situation. By the inguinal method, we ensured a shorter distance between the artificial anus and the cancer, and thus left a greater surface of intestine available for purposes of absorption. A contra-indication of inguinal colotomy was stated to be extensive meteorism, and this he believed to be a cause of great prolapse of bowel not easily replaced. In one case he had seen it necessary to incise the small intestine to ensure its return, and the operation was fatal. In extensive meteorism he preferred the lumbar operation. If the inguinal method be adopted, the abdominal cavity was most easily opened through the linea semilunaris. This he demonstrated from a frozen section. By this operation no muscular fibres were wounded and union was more easy. If the incision were too low the deep epigastric artery might be avoided by taking a line of incision not below the intersection of the linea semilunaris with the line join-

ing the umbilicus with the middle of Poupart's ligament. If it could be ensured that no fecal matter would escape into the peritoneum, he thought it much better to complete the operation in one stage. He described the method of operating he himself adopted to avoid extravasation of feces. The bowel was thereby clamped twice before the sutures were passed. He had performed the operation thus eight times, and always with success. He considered it objectionable to perform the operation *à deux temps*, 'Sutures in the intestine tended to produce vomiting, and consequently the risk of this was doubled when the operation was performed in two stages.

DR. CURTIS, of New York, said that in America colotomy was preferred to resection of the rectum in all severe and extensive cases of cancer. The inguinal operation was almost entirely performed in preference to the lumbar operation. He himself had operated upon a patient with great meteorism, and had found that the incision did not fall over the centre of the sigmoid flexure, and this led to great difficulty in the operation. An opening into the general peritoneal cavity thus produced, had had to be filled up with iodoform gauze before the bowel was sutured.

MR. BRYANT had had only a limited experience of inguinal colotomy. He had done it only for congenital malformation. He had seen several cases after this operation where severe prolapse had troubled the patient. He had not seen such prolapse after lumbar colotomy. He thought that lumbar colotomy was not more objectionable to the patient than was the inguinal operation. Cleanliness was just as easily ensured. He had rarely seen difficulty arise from prolapse in any of the large number of cases of lumbar colotomy he had performed. Some amount of prolapse was necessary to avoid the passage of feces into the lower bowel. He had seen prolapse of the lower part of the bowel after

lumbar colotomy, but this was not very troublesome. He fully believed that inguinal colotomy was an easy operation, but he doubted if lumbar colotomy was after all so difficult as was believed; and if it were, this was a point to be overcome by the surgeon for the good of the patient. It was not the object of the surgeon to invent an operation so easy as to be performed by any one however inexperienced. He had not experienced much difficulty in finding the portion of the bowel he wished to open. He, therefore, still advocated lumbar colotomy in preference to the inguinal operation. He believed still that it increased the dangers of an operation to open the peritoneum. He insisted also upon the greater risk of cancer attacking the wound in inguinal than in lumbar colotomy. In case of failure of the first operation it was much easier and much less dangerous to change the side of operation if the lumbar operation were done, than if the inguinal operation were adopted.

MR. HERBERT ALLINGHAM had performed eighteen inguinal colotomies, and had found it much easier than lumbar colotomy. He still thought, however, that lumbar colotomy had been abused, and that the mistakes made in the operation were due to carelessness. In lumbar colotomy the peritoneum was opened a great deal more frequently than operators were aware of, and it was, he believed, better to open the peritoneum to find the large intestine surely than to grope for it in uncertainty. He described the method of inguinal colotomy he himself had adopted. He believed that inguinal colotomy was of no use unless a good spur was procured. He had observed great procidentia of the large intestine after lumbar colotomy. He had also seen after inguinal colotomy prolapse of the lower portion of the bowel. This, he had suggested in a paper read before the Medical Society in November, 1888, should be treated by removing the prolapsed bowel, and he had seen no evil

results occur from the adoption of such a course.

MR. BENTON had seen a case in which the prolapsed gut would half fill a peck measure. He believed that prolapse was as frequent from the lower as from the upper portion of the bowel. He generally opened the bowel on the third day, and he treated distention by pricking with a grooved needle.

MR. CRIPPS, in reply, said that he was inclined to think Dr. Ball's suggestions as to the operation valuable. He had had little trouble from prolapse, and such as there had been was from the upper portion of the bowel. He considered the question of cleanliness not a very important point. He thought inguinal colotomy the more preferable because it was easier than the lumbar operation, for the latter might not only be difficult, but even impossible. He believed it had been shown that it was not much, if at all, more dangerous to wound the peritoneum than any other structure of the body.—*The Medical Press*, April 10, 1889.

ROYAL ACADEMY OF MEDICINE.

THE SPREAD OF TUBERCULAR DISEASE BY CONTAGION.

E. MACDOWEL COSGRAVE, M.D., before the State Medicine Section:

I venture to lay the following remarks before the State Medicine Section, feeling that in all probability tubercular disease will rapidly assume more and more importance in preventive medicine. It is really not many years since the medical profession shared the fatalistic views still held by the public, and indeed, the very expression "preventive diseases" so freely used until lately, seemed to mark out by a rigid line certain diseases which sanitary science might be hoped to lessen, separating them from all others.

Of late years the position of tubercular disease has greatly changed, and now the

prophylaxis of phthisis and the hygienic treatment of its earlier stages have assumed great importance, and it is being recognized that it is contagious, and spreads by contagion. It is hardly necessary to point out the importance of tubercular diseases. In the decade 1871-80 phthisis was given as the cause of more than one-tenth of the deaths registered in Ireland, that is to say, 103,528 out of 966,745. Tubercular diseases generally cause about one-seventh of the deaths occurring in the United Kingdom.

An important advance was made early in 1882 by Koch's discovery of apparently specific bacteria in tubercle, and by his claim to have cultivated these bacteria external to the body, and apart from tubercular matter, in suitable cultivation media, and then to have developed tuberculosis in guinea pigs and rabbits by inoculating with the organisms thus grown. It has since been generally recognized that the disease is caused by a specific morbid irritant acting on tissue of lowered vitality.

An important declaration of the opinion of medical men was elicited by the Collective Investigation Committee of the British Medical Association in 1884, in answer to a circular asking whether phthisis was contagious, and for evidence for or against; 1,078 medical men answered; of these 673 simply wrote No, without appending any explanation. The remaining 405 reported observations; of these 105 answered No, 39 were doubtful, and 261 answered Yes.

The full force of the affirmative evidence in these statistics is much greater than its numerical expression, for the question was asked to those whose minds were more or less prejudiced in favor of a negative answer. They had been brought up to look upon phthisis as non-contagious, and so their minds were not fairly fitted to recognize contagion. It is always hard to recognize an undescribed causation, and incidents which frequently follow the one

or the other, are often looked upon as cause and effect until some other interdependence is pointed out.

A good example of this fallacy is the exaggerated position the heredity of phthisis occupies in the minds of medical men. This allows observers to recognize tubercular contagion between husbands and wives, and between the sick and their attendants, but not between members of the same family. The replies received by the Collective Investigation Committee illustrate this, as out of the reported observations, no less than 158 instances are given of supposed infection between husband and wife. The spread of disease from tubercular human subjects to dogs (which are difficult to infect with tuberculosis) illustrates well the contagiousness. The late M. Thuon, of Nice,¹ infected sputa of consumptives, mixed with water as a spray, daily for an hour for several weeks, into the kennels of dogs, all of which developed pulmonary tuberculosis, and Dr. Csoker, of Vienna² records a case of tuberculosis in a dog whose master had died of tuberculosis some time before. The results of a very important series of experiments have lately been published by Dr. Cornet.³ He examined the dust taken from the walls of hospital wards, asylums, prisons, and private houses where phthisical patients had been. The dust was removed by a moist sponge from near the patient's bed, but from a part which could not have been soiled directly by expectoration, or contact with dirty fingers. The dust was introduced into the bodies of guinea pigs in order to test its infectiveness; 147 specimens of dust from 133 localities, and 302 guinea pigs were used in the experiments. Of the guinea pigs, 196, or exactly half died of acute infec-

¹ Ap. H. Bennett, M.D., *Brit. Med. Jour.*, p. 387, L., 1889.

² *Med. Press and Circular*, p. 260, L., 1889.

³ Die Verbreitung der Tuberkel bacillus Ausserhalb des Korpen von Dr. George Cornet.

tion other than tuberculosis. Of those that did not die of more acute affections, the following percentages died of tuberculosis:—47·6 per cent. of those inoculated with hospital dust, 17·6 per cent. of those inoculated with asylum dust, and 43·6 per cent. of those inoculated with dust from private houses. Dr. Cornet considers that the expectoration is the source of contagion, that whilst moist it is comparatively harmless as of course bacilli cannot evaporate, but that when the excretion is dried, and becomes pulverized the danger of contagion is great.

This is Koch's¹ opinion also; he says "A phthisical patient is bound, under the circumstances in which these patients are at present generally found, to scatter around him a large quantity of infective material, and that in the form most likely to give rise to infection."

Fisher and Schill's² experiments throw light upon this, showing as they do that tubercle-bacilli may retain their virulence for forty-three days in putrefying sputum, and for 186 days in sputum dried at the ordinary temperature of the air.

The best proof of this power of contagion is the effect of ingestion of tuberculous matter by dogs, as they are not (like rabbits and guinea pigs) predisposed to tuberculosis, but rather antagonistic to it.

A further advance was made when the possibility was recognized of milk from tubercular udders causing tuberculosis. A great many observers have testified to this, and Bang at the International Medical Congress, Copenhagen, stated that he had examined the milk from twenty-seven cows suffering from tubercular mammitis, and had found the specific bacilli in the milk or sediment, and produced the disease by inoculation or ingestion of the milk or sediment.

On July 9th, 1888, Dr. G. Sims Wood-

¹ "Micro-Parasites in Diseases—Etiology of Tuberculosis."

² Ap. Koch, *loc cit.*

head laid the results of his researches before the Grocers' Company. Having alluded to the fact that tubercular mammitis was of extreme rarity in the human female, Dr. Woodhead showed that it was of comparatively common occurrence in the cow. Out of over 600 cows Dr. Woodhead and Prof. McFadyean examined in the Edinburgh dairies they found 37 in which there was mammitis; in the milk of six of these they found tubercle-bacilli. In one of these and subsequently in five other cases they found bacilli in enormous quantities in the udder. The new tubercular tissue was disseminated in patches of various sizes throughout a portion of the gland, the new growth invaded the lobules so that a gradual transition from the healthy gland substance to the dense tubercular mass might be seen. In the mass itself the characteristic bacilli were present in almost inconceivable numbers; on careful examination of the gland, especially at the margin of the new growth, ulcerations into the ducts might be made out, and a small mass of tubercular granulations seen projecting into the lumen. In the granulation tissue, in the epithelial cells, and even lying free in the lumen there were frequently numerous bacilli, and it could easily be understood how they found their way into the milk. Bacilli could only be demonstrated in epithelial cells still attached, and also in rare cases in those lying free in the apparently healthy milk ducts. Dr. Woodhead went on to state his opinion that these facts, together with the feeding experiments recorded by so many observers, went far to prove that milk was a source of tubercular infection, especially in young children.

Prof. Bang in a paper read before the Copenhagen Medical Society on Feb. 28th, 1888, goes so far as to state that milk from cattle with pulmonary phthisis contained bacilli, even when the udders were not in any way affected, but Dr. Woodhead's observations on the rapid and insid-

ious manner in which the udders become affected when there is tuberculosis elsewhere throw a doubt on this statement.

At a Congress held in Paris last year, the danger of the communication of tubercular disease from cows to human beings was fully recognized and an important resolution carried in the following sense:—"That every means, including the compensation of owners, should be taken to bring about the general application of the principle that all meat derived from tubercular animals, whatever the gravity of the specific lesions, should be seized and totally destroyed.

Two other important resolutions were passed by the same Congress. One recommending that dairies, etc., should be inspected to ascertain that the cows are not suffering from contagious diseases (including tuberculosis) capable of being communicated to man; the other recommending that the public should be instructed in simple means of avoiding the danger incurred by using the flesh of tubercular animals, and in proper methods of disinfecting the excreta of phthisical patients and objects contaminated by them.

The contagiousness of tubercular disease explains a great many things, the full significance of which did not before appear. For instance, it has been for long recognized that over-crowding and the re-breathing of respired air was a fruitful cause of pulmonary phthisis. In the Report of the Health of Towns' Commission, 1844, and the Army Sanitary Commission, 1858, this is clearly recognized. The latter gives the following amongst other pertinent statistics:—the Foot Guards with a cubic space per man of 331 feet had phthisis mortality of 13·8 per 1,000, whilst the Horse Guards with cubic space of 572 feet had a mortality of 7·3, or in other words, with less than double cubic space, had very little more than half the death-rate.

Contagion explains also to some extent,

how tubercular disease is so likely to spread in families without having to accept heredity as such an important factor as it is generally considered. Some statistics lately published by C. Theodore Williams, M.D.,¹ are of interest in this connection.

Dealing with the improvement in tuberculosis resulting from residence in high altitudes, he gives the following table:—

	Whole no. of cases. per cent.	Cases with family predisposition. per cent.
Cured, greatly improved.....	82·25	82·25
Deteriorated....	17·02	16·12

As the improvement is just as well marked in those with a hereditary taint as in those without, it seems probable that the danger arises not from heredity as formerly understood, but from the low resistance of the weakened tissues of the offspring of consumptives, and by contagion from the consumptive to his or her offspring. A possible result of the latter may be seen in family predisposition being more common amongst women than men in the proportion of 57 to 43.² This may partly be accounted for by contagion, female children staying more at home and being more the subject of kissing.

Another phenomenon that the contagiousness of phthisis throws light upon is that those whose family history is clear and who show no predisposition to tuberculosis are often attacked when they have been for a long time in a debilitated condition. So in text books, miscarriages, unfavorable confinements, over-lactation, etc., are named as predisposing causes. From a state medicine, as well as from a medical, point of view it is very important to recognize that tuberculosis is contagious, and that this contagion can take place in several ways:—by auto-infection, by direct contagion from lower animals, by direct contagion from the human subject, and by indirect contagion through fomites.

¹ "Medico-Chirurgical Transactions," vol. lxxxi, p. 325.

² "Quam's Dictionary," art. Phthisis.

The possibility of auto-infection is chiefly interesting from a medical point of view, but it gives a useful hint for treatment by antiseptics, destruction of excretæ, etc., and unlimited fresh air so as to reduce the danger of re-breathing air to its lowest possible limits. It also explains some remarkable cases. I remember the late Dr. B. G. Macdowell relating the case of a young man who had advanced phthisis pulmonalis with cavities. His case was considered hopeless and, despair making him reckless, he gave up all treatment, went to the West of Ireland, spent his days shooting over the mountains, taking no precautions against cold, wet, or over-fatigue. The result was he improved and practically recovered, living for many years afterwards.

Another somewhat similar case was published two years ago by Dr. Neal;¹ the treatment, however, was carried out under medical supervision. The patient was kept warm, fresh air was freely admitted, the windows and doors being thrown open, and antiseptic inhalations were used. The result was satisfactory, the patient rapidly improving.

These seem to have been examples of desperate struggles between cells and bacteria, in which all was staked on a single throw, and in which the cells won by cutting off the bacteria from their base of supplies. The stoppage of contagion from animals is clearly in the province of State Medicine, and this has already been recognized by some States. In France the President of the Republic last year signed a decree providing *inter alia* that every cow found to be suffering from tuberculosis shall be isolated, and that the Sanitary Inspector shall be present when it is slaughtered, and make a report on the post-mortem appearances. The meat shall be condemned if tubercular lesions are generalized. The sale of the milk of tuber-

cular cows is absolutely prohibited, and it can only be used for feeding animals after it is boiled.

In Copenhagen the Milk Supply Company have been advised to order a fortnightly examination by a veterinary surgeon of all cows supplying milk to the Company: this examination to include a most careful search for tubercular udders. In the United Kingdom we are sadly behind. The Decree of the French Government might well be taken as a model. The recommendations of the French Congress as to dairies ought also to be adopted. The latter is very important in Dublin. With nearly four hundred dairy yards scattered through the city, frequently in a filthy condition, as graphically described by Dr. C. F. Moore in a paper read before this section,¹ as sanitarians we ought not to rest satisfied until all dairy yards are removed outside the city. The third means by which tuberculosis spreads, this is from person to person, either directly or indirectly, is also of great importance. In a paper read by the Registrar-General before this section² an apparent spreading of tuberculosis from crowded centres to the surrounding districts is shown. On comparing the maps of the distribution of phthisis and of bronchitis it is seen that the death-rate from bronchitis is high in Dublin and Belfast, but that the high rates scarcely spread into the districts around: whilst the phthisis high death-rate does spread into the surrounding districts. One special factor in this case is probably contagion. The young go to service in towns, become reduced in resisting power, fall ill of phthisis, return home and are shut up in small houses where they rapidly get worse and give the disease to other members of the family. As the Registrar-General pointed out small houses *per se* are not the cause, for in Ireland inferior

¹ *British Medical Journal*, 1886, vol. ii. pp. 1068.

¹ "Transactions" Academy of Medicine, 1886,

² "Transactions," Academy of Medicine, 1887.

house accommodation and slight prevalence of phthisis are nearly parallel, not as cause and effect but because rural life coincides with both low phthisis rate and defective nursing. The prevalence of phthisis in the rural districts surrounding large cities is therefore a noteworthy fact.

Dr. Flick¹ in a recent paper gives some interesting instances of countries where phthisis was unknown until introduced by immigrants. He alludes to the way in which in cities cases of the disease occur clustered around a moving focus.

An interesting case showing the danger of contagion to those predisposed to the disease is mentioned by Dr. Williams² though not with the object of illustrating this point. A young lady "with disease at the left apex, who passed one winter at Davos, lost apparently all symptoms, and nearly all signs of disease in her chest. She then married a gentleman far advanced in consumption and went to Colorado and New Mexico, where he succumbed. During his illness he was nursed entirely by her. She returned to England in the following spring with cavities in both lungs, and with intestinal ulceration, and she died in the autumn."

Dr. Henry Bennett records the case³ of an English officer of 27, a model of health and strength, with perfect family antecedents, no phthisis or other known taint existing. He came home from New Zealand with a young wife in an advanced state of consumption. They occupied a small cabin, the windows of which were seldom or never opened during her lifetime. The voyage lasted four months and she died three weeks before the ship arrived. A few weeks after his arrival in England he developed symptoms of phthisis, and died a year or two afterwards.

Dr. Bennett also says, "My memory recalls several cases where consumption has appeared to be thus conveyed from husband to wife, from wife to husband, from mother to child and *vice versa*."

In connection with this a possible danger of health resorts may be pointed out. Dr. Jacoby has found tubercle bacilli in the air of an hotel in Nice in July.

Against the spread of tuberculosis sanitary science can do much. The disease should be recognized as contagious, and those affected with consumption should not be allowed to imperil the health of others. G. R. MacMullen, LL.D.,¹ suggests that steamboat companies should adopt the following rules:—

1. Intending passengers should on booking produce to the booking agent a medical certificate stating that the intending passenger is in good health, or, if not so, the nature of his or her ailment.

2. The medical officer in charge of the ship should have power to remove a passenger into the ship's hospital, which in view of such contingency, would be properly fitted for the reception of patients.

Then precautions should be taken not to treat tubercular cases in the wards with other cases, and the nurses in charge of such cases should from time to time be changed to other duties. All sputa and other excretions should be disinfected and destroyed. The bodies of animals and of human beings dying of tuberculosis should, when possible, be cremated. The non-tubercular members of the so-called "consumptive families" should be separated from those already affected. These measures, together with those recommended to check the spread of the disease from other animals, taken in conjunction with the other efforts of modern sanitation ought to do much towards checking the spread of tuberculosis by contagion.

¹ "The Contagiousness of Phthisis." By Laurence F. Flick, M.D.

² Medico-Chirurgical "Transactions," vol. 81, p. 315.

³ *British Medical Journal* 1889, I., p. 387.

¹ *Australian Medical Gazette* Nov. 1888.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

SURGICAL DIAGNOSIS BY THE TEETH.

Abstract of paper read by JONATHAN HUTCHINSON, F.R.C.S.

Referring to *Pyorrhœa Alveolaris* (Riggs' Disease), a condition in which the gums recede and non-carious teeth are shed, the author pointed out that an analogous disease—sycosis—affects the hairs, in which a suppurative inflammation attacks the hair follicles and causes the hairs to drop out. Similarly the nails are in rare cases thrown off by reason of sycosis affecting their matrices. Sycosis of the beard, of the eyelashes (misnamed *tinea tarsi*, since no cryptogam exists), one and all have a similar pathogenesis, viz., a contagious inflammatory suppuration, the pus being carried from hair to hair and exciting fresh foci of suppuration. Although often occurring in weakly subjects, it was not necessarily confined to these; indeed, he regarded these forms of sycosis as local, and not constitutional conditions. The treatment seemed to lend color to this theory, for while tonics and general remedies did not ameliorate the disease, local epilation never failed. Comparing sycosis with *pyorrhœa alveolaris*, the lecturer insisted that the local inflammatory theory explained all the conditions. The purulent depots at the gum margins of the teeth infected one the other, and so the disease rapidly spread.

Materials used for Stopping Teeth.—Without for a moment disparaging the value of amalgams as a stopping material, Mr. Hutchinson believed that in some rare instances they were the cause of intractable and irritable sores upon the lips, gums, and cheeks. He spoke simply as an observer, not knowing the chemical composition of these stoppings, many of which, he was told, were secret preparations; but he had certainly seen ulcers which refused to yield to treatment disappear after the

removal of discolored amalgams. He had always been careful to eliminate the probability of roughness of the stopped teeth being the cause, and had never seen ulcers where gold fillings had been employed. He quoted a case of an American physician who presented a number of ulcers which several surgeons had pronounced syphilitic; the patient, however, stoutly maintained that he had never had syphilis or a symptom of it, and all his children were perfectly healthy. Mr. Hutchinson, finding that he had several amalgam fillings, which had been inserted some years before in America, ordered their removal, which, being done, the ulcers rapidly disappeared.

Syphilitic Teeth.—Mr. Hutchinson said he had little new to say on this subject. The notched incisors were now generally admitted as evidence of hereditary syphilis. The upper centrals are the *test* teeth, and in no single instance had they misled the lecturer; but the markings on other teeth might be misleading, as they were often caused by the mercury given as a remedy for the syphilis, and were not due to the syphilis itself. In the great majority of cases of hereditary syphilis the markings on the central incisors are present, but not always so. Of several members of the same family one or two might have the characteristic teeth, while the others escaped. He wished to draw attention to two points of clinical observation. (1) In all cases where interstitial keratitis occurs there are found malformed teeth, and those who have the *test* teeth characteristically marked have suffered from interstitial keratitis; (2) children who show signs of hereditary syphilis in the shape of phagedænic affections of the throat have no peculiarity of the teeth, and do not have interstitial keratitis.

The teeth affected by stomatitis, whether mercurial or other, were often mistaken for syphilitic teeth. Mercury given in infancy set up inflammation of the tooth

sacs, and so led to deformity of the enamel. The test teeth in these cases are the first permanent molars, which might be compared with the premolars. Lamellar cataract, so commonly associated with stomatitic teeth, was due to convulsions. In adult life the presence of mercurial teeth was an assistance. Often the smallest dose of mercury would in these cases produce salivation, and the teeth revealing the idiosyncrasy would warn against its incautious use. The correlation of dental defects with errors in other structures had been brought before the Society by Mr. Moon. Rat-like teeth were due to suppression of lateral denticles, and were often associated with micro-ophthalmos and deficiency in hair. Skin defects, however, are not always accompanied by tooth lesions. Referring to dentition in rickets, Mr. Hutchinson deprecated speaking of any definite rachitic teeth; the disease attacked the teeth as it did other structures.

The value of considering the teeth lay in answering the question, not, are the teeth present, but rather how and why did the teeth go? Some constitutional conditions would affect this, or in some cases local disease, as in pyorrhœa alveolaris. Again, tartar causing gum absorption often ran in families. In some cases it was due to excessive salivary secretion. The lecturer did not consider gout, as such, produced any typical teeth. As long ago as Graves, tooth grinding had been shown to be common among the gouty, and this practice led to wearing down the teeth.—*Medical Press.*

ACADEMIE DE MEDECINE.

ANTIPIRYN IN GLYCOSURIA.

At the last meeting of the Académie de Médecine a discussion on the action of antipyrin in glycosuria occurred. M. PANAS related two cases which he considered important. The first was that of a man of 38, who was affected with bilateral cataract

for two years previously, excreted in the twenty-four hours over an ounce and a half of sugar. Finding that little or no relief was given him at his own home, he entered the hospital, and placed himself under the care of M. Panas. A rigorous dietetic treatment was immediately adopted, with the effect that the quantity of sugar diminished to half an ounce, but that amount persisted, in spite of all treatment. The patient consented to the removal of one of his cataracts: M. Panas decided to operate. The result was a perfect success, in spite of the persistent glycosuria. He then left the hospital for some time, and returned at the beginning of the present year. His urine then contained nearly two ounces of sugar in the twenty-four hours. The usual *regime* for diabetes was ordered, and in a few days the quantity of sugar fell to one ounce. After trying iodide of sodium, bromide of potassium without effect, M. Panas ordered three grammes of antipyrin a day, and in a week no trace of sugar was found, although the patient had eaten ordinary bread. The second cataract was removed, and when the man left the hospital one drachm of sugar was found, but he had two days previously been left without the antipyrin. The second case was that of a woman, aged 73, diabetic for six years. She had also double cataract, and the quantity of sugar was but little inferior to that of the first case. The administration of three grammes of antipyrin daily reduced it to sixty grains, and finally to twelve grains. In conclusion he said that he considered antipyrin to have a very prompt antiglycogenic action, that it succeeds where all other treatment failed, and that the dose should be twenty grains three times a day.

M. G. SEE said that he treated eighteen patients by antipyrin, and his experience was that where the sugar did not exceed in quantity three ounces in the twenty-four hours that drug effected frequently a complete cure. Not only does the thirst, poly-

uria, glycosuria, etc., disappear, but also the different nervous and cutaneous troubles.

M. DUJARDIN said that fully a year ago he had the good effects of antipyrin.

M. ROBIN said that for eighteen months he treated diabetes by antipyrin, and he found that it acted with energy on glycosuria, but he did not meet with one case of complete cure. As to the method of administering it, he thought it would be well to associate with it a little bicarbonate of soda, and not to continue it longer than ten or twelve days, as its constant use would likely produce albuminuria.

MEDICAL SOCIETY OF BERLIN.

PROPHYLAXIS OF TUBERCULOSIS.

This subject was presented by DR. CORNET. Cornet was specially qualified for an address on such a subject. He has for the last two years been studying experimentally in Professor R. Koch's Hygienic Institute, with a view of determining the behavior of the tubercle bacillus both within and without the body. The speaker discussed the doctrine that led to the false conclusion that certain people had an immunity against it. It was shown that the air was the chief carrier of the virus. All tubercle bacilli, however, had their origin in the bodies of animals or men, and here was the starting point of the prophylaxis of phthisis, and as the bacillus could not be destroyed within the body the aim should be to render it innocuous the moment it left it. Fæces and urine of phthysical patients sometimes contained bacilli, but no danger arose from them, as the rapidly growing bacteria of decomposition quickly destroyed them. An infection of the intestinal tract could, however, be caused by the milk or flesh of tuberculous animals as was shown in the case of children. The great source of the infection, however, was the phthysical individual himself when the affection was in the lungs.

Here also there was an incorrect notion that the virus was contained in the breath itself. He believes that such is not the case. For, according to the investigations of Nägeli, tubercle bacilli are never found in the expired breath of phthysical patients. The danger lies in the sputum alone, and then only when it becomes dried, pulverized, and caught up as dust into the air. Sputum is not easily pulverized, however, and moreover there are protective arrangements for preventing the ingress of such virus in the nasal passages and the respiratory tracts, where the bacilli are caught and sent back to the outer air by the ciliated epithelium of the air passages. The sputum is most dangerous when expectorated on to the ground, or into a handkerchief, as then the conversion of it into dust is most favored. In his numerous investigations in hospitals and private dwellings where the sputum was ejected on to the floor or into handkerchiefs, he always found virulent bacilli in the air or on the walls whilst they were constantly absent where expectorations took place into proper vessels. It was no wonder, therefore, that those belonging to consumptive patients, and especially the children of consumptive mothers, suffered so much from the disease. As regards prophylaxis, it is first of all requisite that, whether tuberculous or not, every one expectorating in a closed space should do so in a proper vessel, and phthysical patients should be taught always to expectorate in a vessel, never on the floor or in a handkerchief. Spitting-cups might be quite safely emptied into the closets, and they only require a little water at the bottom to prevent drying. In case of death the walls of the chamber should be rubbed down with freshly-baked bread, the floor washed, the bed and clothing disinfected in super-heated steam. Generally speaking it was advisable to rub down the walls with bread on any change of residence. Consumptive patients should be separated from others in general hospitals. By fol-

lowing out the principles of prophylaxis he had mentioned, he expected considerable diminution in the ravages from that disease.

In the discussion that followed, DR. B. FRANKEL pointed out that some portion of the sputum containing bacilli would often be retained in the saliva of a phthysical patient; that was an old observation. He related the case of a healthy young clerk being engaged in an office with a consumptive principal. Both worked at the same desk, and both were in the habit of nibbling their penholders. After a time the clerk took ill of tuberculosis and died, after he had in his turn infected his healthy mother.

Dr. Cornet pointed out, in reply, from statistics compiled by himself, that 63 per cent. of nurses fall victims to tuberculosis. A healthy girl devoting herself to this calling died 21 years before the other population, and this difference in the mortality was entirely due to the increased amount of phthisis. He remarked further that in orphanages where strict prophylaxis was followed, tuberculosis was kept away, although the children might be the offspring of phthysical parents. In the orphanage at Nürnberg, where there were 400 children, mostly of tuberculous parentage, only two or three died of phthisis in the course of eight years. In hospitals the time of greatest danger was that of dusting and cleaning up.

BOOK REVIEWS.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS.

Volume one, numbers one and two, January and February.

The first number for January contains

The Pedigree of Disease, by Jonathan Hutchinson, F.R.S.;

Common Diseases of the Skin, by Robert M. Simon, M.D.;

Varieties and Treatment of Bronchitis, by Dr. Ferrand.

The second number, for February, contains

Gonorrhœal Infection in Women, by William Jap Sinclair, M.A., M.D.;

On Giddiness, by Thomas Grainger Stewart, M.D.;

Albuminuria in Bright's Disease, by Dr. Pierre Jeanton.

The subjects chosen for these two numbers are interesting, and the names of some of the authors are so well and so favorably known that one always feels assured that what comes from their pens will be worth reading.

The plan of the publishers, in issuing these shorter works in this form, gives to the subscriber more of a variety in the works furnished during a year than the plan followed in their *Library of Standard Medical Authors*, and at less expense to the purchasers, notwithstanding the difference in the binding. In these days when the profession is flooded with medical literature ranging through a scale all the way from good to bad—with many different shades between those two extremes—it is some relief to the reader to have some one make at least a partial selection for him, and these monographs will, to a certain extent, serve that purpose.

With exception of the binding, these two numbers have been issued in better shape than were the numbers in the preceding years covering the issue of the *Standard Medical Authors*.

AMERICAN RESORTS, WITH NOTES UPON THEIR

CLIMATE. By BUSHROD W. JAMES, A.M., M.D., Member of the American Association for the Advancement of Science; The American Public Health Association, etc., etc. Intended for invalids and those who desire to preserve good health in a suitable climate. Philadelphia: F. A. Davis. 1889. Octavo. 300 pages, cloth. This work is divided into twelve chapters as follows:

Medical Climatology.

Benefits and Dangers of Health Resorts.

Sea-side Resorts.

Fresh-water Resorts.

Mountain Resorts.

Trips upon Ocean, Lake and River.

Mineral Springs.

Summer Resorts.

Winter Resorts.

Therapeutics.

Mexico and South America.

Translation from "Die Klimate der Erde."

These are followed by extensive bibliography of the subject, and accompanied by a map of both North America and Central America.

The work contains much information on the subject, which will interest those for whose benefit it was especially prepared. If it shall have, as one effect, an influence in awakening some of

the nomadic Americans to the fact of the many advantages which their own country offers to seekers after health and amusement, the book will not have been written in vain. Certainly nature has not only been kind to us but lavish, and if art will but contribute its fair share in embellishing these naturally attractive resorts, and surround more of them with the comforts which modern civilization demands, the annual exodus of Americans to the older and better-known foreign resorts will probably be materially diminished in the near future.

ATLAS OF VENEREAL AND SKIN DISEASES, COMPRISING ORIGINAL ILLUSTRATIONS AND SELECTIONS FROM THE PLATES OF PROF. M. KAPOSI, ETC., WITH ORIGINAL TEXT. BY PRINCE A. MORROW, A.M., M.D., Clinical Professor of Venereal Diseases, etc. New York: Wm. Wood and Co. Fasciculi, Nos. x. xi. and xii.

The last published fasciculi of this valuable and important collection of plates include admirable portraits of such common and rare affections as herpes in all varieties, many of the forms of dermatitis, pemphigus, purpura, eczema, molluscum, acne, and lichen planus. It is difficult to overestimate, from the point of view of the diagnostician, the value of this Atlas. If it had been made up entirely from the cases collected for illustration from the experience of one man, or of a body of men living in one country, it could not possess the worth it now has, representing as it does a truly catholic review of what has been hitherto published in all countries and places. Nor need Americans feel slighted or representation in so goodly a company of medical artists, for not least among the valuable lithographs in color here given are the author's own illustrations of disease. The text is a trustworthy commentary on the subjects presented in the portraits, and is filled with practical hints. The Atlas may be warmly commended to both students and practitioners as an invaluable addition to a medical library.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. BY ARTHUR VAN HARLINGEN, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic, etc. Second Edition. Enlarged and Revised. Philadelphia: P. Blakiston, Son and Co. 1889. Pp. 410.

The second edition of this valuable little work includes a number of new articles relating chiefly to the rarer affections of the integument; and also numerous original and selected illustrations which greatly enrich its pages. Many of the older chapters bear unmistakable evidences of careful revision. The first edition of the work

greatly commended itself to the student and practitioner by reason of the exceedingly practical character of its recommendations for treatment: and it has evidently been the author's aim to fully sustain this reputation in the quality of its second edition. The book may be warmly commended to those who have need of a compendious hand-book of cutaneous medicine: and is easily first of the smaller and less pretentious of these works. Its author is well known as a competent and judicious contributor to the dermatological literature of this country. To those who have had a practical acquaintance with the pages of the first edition, it will be superfluous to commend this its successor, which has all the merits of the first and the advantages over it of a conscientious revision and enrichment.

THE PSYCHIC LIFE OF MICRO-ORGANISMS.—

A Study in Experimental Psychology. By ALFRED BINET. Translated from the French by Thomas McCormack, with a preface by the author written especially for the American edition. Chicago: 1889. The Open Court Publishing Company. Cloth, 75 cents. Paper, 50 cents:

M. Alfred Binet, the collaborator of Ribot and Féré, and one of the most eminent representatives of the French School of Psychology, has presented in the above work the most important results of recent investigations into the world of Micro-Organisms. The subject is a branch of comparative psychology little known, as the data of this department of natural science lie scattered for the most part in isolated reports and publications, and no attempt has hitherto been made to collate and present them in a systematized form.

The cuts, eighteen in number, are illustrative of the movements, nutrition, digestion, nuclear phenomena, and fecundation of Proto-Organisms.

The most interesting chapters are those on fecundation, which demonstrate the same instincts and vital powers to exist in spermatozooids as are found in animals of higher organization.

A MANUAL OF INSTRUCTION IN THE PRINCIPLES OF PROMPT AID TO THE INJURED, Designed for Military and Civil Use. By ALVAH H. DOTY, M.D., Major and Surgeon, Ninth Regiment N. S. G. N. Y.: Attending Surgeon to Bellevue Hospital Dispensary, New York. New York: D. Appleton and Company. Chicago: A. C. McClurg and Company. Pp. xxiii. and 224.

The design of this little manual is to instruct those who are desirous of knowing what course

to pursue in emergencies, in order that the sick or injured may be temporarily relieved, and the design has been well carried out. Like other books of the kind, it would serve a good purpose if more of those for whom the work was prepared would profit by its teachings—and early enough to know, when the emergency arises, what should be done, before proper medical or surgical aid can be obtained. It is seldom that non-professional persons acquaint themselves sufficiently with the requirements of such emergencies, before their occurrence, and for this reason many of the efforts made to so enlighten them that they can act intelligently and promptly fail to accomplish that object.

This work has been carefully prepared, and it is exceptionally well illustrated.

THE PATHOLOGY, CLINICAL HISTORY AND DIAGNOSIS OF AFFECTIONS OF THE MEDIASTINUM, other than those of the Heart and Aorta, with tables giving the clinical history of five hundred and twenty cases. Being an Essay to which was awarded the Fothergillian Medal of the Medical Society of London, March, 1888. By HOBART AMORY HARE, B. Sc., M.D., etc., etc. Pp. 150. 1889. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener.

Prior to the preparation of this essay, it is stated, but fifty-three references of cases of affections of the mediastinum had been collected by any one person, which is a surprising statement, especially when it is realized that the author of this essay has collected almost ten times that number, including:

134	Cases of Mediastinal cancer.
98	“ “ “ sarcoma.
115	“ “ “ abscess.
16	“ “ non-suppurative inflammation.
21	“ “ Lymphoma of the mediastinum.
7	“ “ Fibroma “ “
6	“ “ Hæmatoma “ “
11	“ “ Dermoid cyst “ “
8	“ “ Hydatid “ “ “ and
104	“ “ various Mediastinal diseases.

After giving tables classifying these different affections, and giving their clinical history, a brief summary of conclusions is given, as follows:

1. Cancer is more frequently found in the mediastinal spaces than any other morbid process.
2. Abscess is the morbid process next in frequency of occurrence.
3. Sarcoma occupies a third position as to frequency.
4. Lymphomata and Lymphadenomata occupy a fourth place, but are much more rare than the others mentioned.

5. The Anterior Mediastinum is affected far more frequently than the other two spaces.

6. Most Mediastinal growths occur in adults.

7. More males are affected than females by mediastinal disease, be that disease what it may.

8. Cancer and sarcoma of this space are necessarily fatal.

9. Abscess is recovered from in about 40 per cent. of the cases.

Six plates accompany the essay, giving views of some of these pathological conditions.

The result of the essayist's labor will be to make the profession more familiar with this subject, and to appreciate more fully how little attention it has heretofore received.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume Sixth. Edited by J. EWING MEARS, M.D., recorder of the Association. Printed for the Association and for sale by P. Blakiston, Son & Co., Philadelphia. Pp. xxvii and 572. 1888.

The volume embraces a list of the officers of the Association for the year; a list of the Presidents of the Association from the time of its institution; the names, and official positions, of the Fellows of the Association, and Honorary Fellows, and a necrological report for the year.

The scientific work of the Association, which embraces so many of the representative general surgeons of the United States, is such as would be expected from the active workers in the profession. Many of the papers have already been presented so fully to the profession, since the last meeting of the Association, as to be quite familiar, and not to call for any extended notice of them here.

A COMPENDIUM OF DENTISTRY, for the use of Students and Practitioners. By JUL. PARREIDT, Dental Surgeon to the Surgical Clinic of The Institute of the University of Leipzig, etc. Authorized translation by LOUIS OTTOFF, D.D.S., etc., etc. With Notes and Additions by G. V. BLACK, M.D., D.D.S., etc., etc. With numerous Illustrations. Pp. ix and 229. Chicago: W. T. Keener.

Whilst this work is especially interesting to dentists, it is not wanting in interest or usefulness to physicians. Aside from the beauty of good teeth, and their great value in distinct articulation, the important part which they perform in the complicated process of digestion has had too little practical recognition. The simple mechanical work of the dentist has too often been given such prominence as to have led to the overlooking of the importance anatomically, physiologi-

cally and pathologically, of the teeth. The connecting link between the mechanical dentist on the one hand, and the physician on the other, has probably not until recently been sufficiently recognized. Works such as this have a tendency to give prominence to the fact that dentistry, in the best sense of that term, is more than a mechanical trade, and show how a liberal medical education best fits the dentist for his calling, and, having thus been educated, he is entitled to recognition as a specialist in the field of medicine.

This work can be commended alike to the mechanical dentist, the dental specialist, and the physician. The publisher has issued it in a form worthy of so deserving a work.

THE YEAR-BOOK OF TREATMENT. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co. Pp 344. 1889.

The preface to the book gives its object so fully that those not already familiar with its scope can ascertain it from that preface reproduced herewith: "The object of this book is to present to the practitioner not only a complete account of all the more important advances made in the Treatment of Disease, but to furnish also a review of the same by competent authorities.

"Each department of practice has been fully and concisely treated, and care has been taken to include such recent pathological and clinical work as bears directly upon Treatment.

"The medical literature of all countries has been placed under contribution, and the work deals with all the more important matters relating to Treatment that have been published during the year ending September 30th, 1888.

"A full reference has been given to every article noticed."

TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc., etc. Second Edition. Revised and Enlarged. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener. Pp. xvi and 646. 1888.

The first edition of this work, which appeared about five years ago, has become familiar to the profession, and it only remains to note the fact that this edition has been carefully revised and some new matter added, including the subjects of Blood Stains, Suffocation, Ptomaines, Malpractice, and Toxicology. Whilst the first object of the book is to meet the requirements of students of Legal Medicine it will still be found useful and interesting to others.

In preparing this edition the author has sought to bring it up to the literature of the day, and

his effort has not been unsuccessful. The publishers have issued it in good shape—worthy of so good a book.

RECTAL AND ANAL SURGERY, with Description of the Secret Methods of the Itinerant Specialists. by EDMUND ANDREWS, M.D., LL.D., and EDWARD WYLLIS ANDREWS, A.M., M.D., Professors of Clinical Surgery in Chicago Medical College, etc., etc. Second Edition, Revised and Enlarged, with Illustrations and Formulary. Chicago: W. T. Keener. pp. xiv. and 140. 1889.

When the first edition of this work appeared, so recently, so full a review of it was given in this journal, that it remains only to draw attention to the fact that a second edition has so soon been called for, and that the authors have taken advantage of the opportunity to improve upon the first edition by re-writing and enlarging much of the book. Several new chapters and an appendix have been added, and the number of illustrative cuts has been increased. In many respects this edition will be found to be an improvement on its predecessor. The mechanical execution of the work is creditable to the publisher.

SAINT BARTHOLOMEW'S HOSPITAL REPORT.

Edited by W. S. CHURCH, M.D., and W. J. WALSHAM, F. R. C. S. Vol. xxiv. London: Smith, Elder & Co. Pp. xxii and 448. 1888. With Supplement giving Statistical Tables of the Patents under Treatment during the year 1887.

The volume contains twenty-nine articles on as many different subjects, with a list of specimens added to the Museum; Donations to the hospital library; List of Scholarships and Prizes; List of Prize-men; Hospital Staff, and a List of Subscribers to the hospital fund.

The text of the report is liberally illustrated, and the illustrations are fairly well executed.

The volume is fully up to the high standard of its predecessors, which have become so well known to the profession, and so justly esteemed.

A REFERENCE HAND-BOOK OF THE MEDICAL SCIENCES—Volume VII. Edited by ALBERT H. BUCK, M.D. New York: William Wood & Company.

This excellent work has been made familiar to the medical profession by the six volumes that have preceded this one, which begins with Ter., and ends with Wor. Its main characteristics are similar to those of the other six volumes, including the illustrations which are quite numerous. The work reflects much credit on the editor and the publishers.

LECTURES ON THE ERRORS OF REFRACTION AND THEIR CORRECTION WITH GLASSES. Delivered at the New York Post-Graduate Medical School, with Illustrative cases, etc. By FRANCIS VALK, M.D., Lecturer on The Diseases of The Eye, New York Post-Graduate Medical School, etc., etc. New York and London: G. P. Putnam's Sons. Chicago: W. T. Keener. 1889.

The work embraces eleven lectures, covering the anatomy of the eye—Refraction. Emmetropia. Hypermetropia, Myopia, Ophthalmoscopy, Muscular Asthenopia, Astigmatism, Retinoscopy, Presbyopia, and concludes with histories of illustrative cases, and specimens of Snellen's Test-types.

It is liberally illustrated with fairly good woodcuts. It is printed on good paper, in clear type.

THE STUDENT'S TEXT-BOOK OF THE PRACTICE OF MEDICINE. By ANGEL MONEY, M.D., London, Assistant Physician to University College Hospital, etc., etc. London: H. K. Lewis. pp. xiv. 458.

The author of this little volume says, in his preface, that "To give a right conception of disease and its treatment has been more the writer's aim than to state all that has been written about it." That aim, as all will admit, is a commendable one, and perhaps the author has succeeded as well as could be expected, in so limited a space.

It is divided into fifteen chapters; has a *Therapeutic Index*; a general index, and a list of the author's published writings.

MISCELLANY.

The Johns Hopkins Hospital of Baltimore.

—The Johns Hopkins Hospital will be formally opened May 7. The grounds of the Hospital include four entire blocks, containing about fourteen acres of ground, having a frontage on Broadway of 709 feet and extending back 856 feet. The buildings are seventeen in number and cover over four acres, and have been building about thirteen years, and are the result of the generosity of the late Johns Hopkins. The endowment is over \$3,000,000, invested in securities. Only the income has been used in the construction of the buildings. With the exception of the Laundry, Autopsy Building, Chapel and Green-house, all the buildings, which are

of brick with trimmings of dark blue stone, are connected by covered corridors one story high. The top of the corridor forms an open terrace-walk on a level with the ward floors. The objects of the hospital are: The proper care of the indigent sick; the education of trained nurses and of physicians; the promotion of discovery in medical science and the promulgation of the same for the benefit of the public. The outdoor relief will tend to popularize the hospital.

The medical school will not be a part of the hospital, but the students of this department will receive their practical experience in the hospital.

THE GENERAL PLAN.

The cottage plan adopted, with commodious arrangements, large, airy apartments given up to the sick, with an adequate supply of nurses, and of medical and surgical skill, shows a smaller average mortality than the more crowded ward system. The great objection made against placing one ward above the other is based on the increased facility for the transmission of foul air from one floor to another, and the impossibility of giving as good ventilation to the lower as to the upper floors. The plan adopted in constructing this hospital is, to have but one floor in a pavilion devoted to ward uses.

The pavilions have a basement nine feet high, raised above ground, laid with a granolithic flooring, containing only the heating and ventilating apparatus, and connected directly with a closed corridor ten feet wide, which communicates directly with all except two buildings, the dead-house and laundry. With the exception of the pay wards, none of the pavilions can be entered from the closed corridor except by first passing through the open air. All the floors on which the sick wards are situated communicate directly with a long, flat terraced roof on the top of the corridors, surrounded by railings, which serves for exercise of the patients

and their general communication in fair weather, and likewise affords a free circulation of air all around the wards left unobstructed on what is termed the first floor of the system.

Each patient in the hospital is to have 100 feet of floor space, thus providing ample breathing space, and avoiding dangers common to hospitals. Not more than 400 sick persons are to be accommodated at any one time in the institution.

The common wards are rectangular in form, ninety-one feet long by thirty-two feet broad, with twelve beds arranged on either side of its length, at least one window being placed between each two. In the octagonal ward the beds are placed at exactly equal distances from each other and from the fireplaces and ventilators. A large ventilating shaft occupies the center of the room. Each of the two octagonal wards has two stories.

The isolating ward is for the treatment of patients suffering from contagious diseases. Each person is assigned a separate apartment, whose ventilation is made through an individual shaft.

Heating and ventilation are inseparably connected in making plans for hospitals. The open fireplace here has a conspicuous place in all the buildings where a room occupied by not more than two persons is to be heated.

An electrical device called a "telemeter" is to be placed in the medical director's room in the Administration Building, by which he can see at a glance the temperature of various parts of each ward in the entire hospital, and if the heat be too great or too little he can order its modulation by decreasing or increasing the amount of air in a given switch-damper that is to pass around the coils.

For the removal of the vitiated gases there are several devices employed in the same ward, including, besides the fireplace heaters, a coil of hot-water pipes near the top of the shaft, which creates a constant

upward current of some little velocity from the rooms below. In the central hall of each pavilion there is in addition an enormous shaft for ventilating each entire floor. At night when the products of combustion of the gas jets are to be removed, in the morning when all the wards are to be thoroughly flushed, and in summer that this dead residuum may be removed, ventilators at the top of the room are opened. The pay wards have individual rooms, with all the features of switch-damper ventilation below and above. In the Nurses' Home is exhibited an anemometer to measure the velocity of the current upward into the ventilating shaft, which rapid egress is necessary to replenish the pure air. The attics above the wards have also the best of ventilation.

Throughout all the buildings the pipes for plumbing are exposed, so they can be examined and the source of any difficulty remedied at once. No sewer is allowed to pass directly under any building. The waste water drains directly through pipes into the Harford Run, and fecal matter flows through a large outlet, which is to be frequently flushed with large quantities of fresh water, into an immense well under the Nurses' Home, which is ventilated by a stack one hundred and twenty feet high.¹

No mouldings are allowed on the furniture or wood-work in any of the buildings lest shrinkage cause cracks.

The baths of the hospital are in an annex where patients who are well enough are induced to go. If unable to leave their beds, a portable bath-tub is brought to the bedside. Turkish, Russian, mercury, vapor, electric, needle, plunge, and other bath-rooms are provided for all who have them prescribed for them. Separate bath buildings are provided for males and females.

The kitchen is three stories high besides the cellar and boiler vaults. The upper story contains dining-rooms for employes and sleeping-rooms for cooks.

The entrance to the kitchen is by the closed corridor. It is on the floor below the sick wards, into which its odors cannot penetrate. All modern conveniences of steam apparatus are provided for cooking, and large hoods for carrying off the vapors to the flues. It is provided that all the garbage and waste must be at once carried out into the open air and dumped into a chute to be carried away. All the viands for the patients are carried in felt boxes, to be kept hot by this simple device, to the wards some distance off. In each ward there is, however, a nurses' kitchen, with steam tables to prepare any simple dish that may be required for an emergency or during the night.

A noticeable feature everywhere is the absence of patients' elevators, for it is believed that more comfort will be insured by raising the sick on stretchers up broad stairs with an easy rise than by subjecting them to the shock of sudden stoppages on the elevator. Fear of the rise of contaminated air through the elevator hatches also assisted in deciding on this feature.

The laundry is a one-story building and completely isolated from the rest of the group, and plays an important part in the institution. Its disagreeable vapors render its complete isolation necessary. Tubs, boilers, rotary washing machines, centrifugal wringing apparatus, and other modern devices for laundering clothes are provided. The disinfecting chamber is in the basement of this building. The roof is flat, and is to be used for sunning the clothes.

THE DEAD-HOUSE.

The autopsy building, near the corner of Monument and Wolf streets, now used by the pathological laboratory of the University, also stands isolated for an obvious good cause. It contains on its first floor an amphitheatre, where fifty students standing, after the plan adopted in Berlin and Strasburg, can view an autopsy. There is also an air-tight morgue-room, a

waiting-room for funerals, and a pathological laboratory, all on the first floor. The upper story contains rooms for histological research and for photomicrography and a small museum. The basement will probably have a small crematorium in which to consume refuse animal matter.

Three more common wards, an octagonal ward and an isolating ward, a chapel and a green-house are yet to be constructed. There will be extensive gardens connected with the hospital.

A Judge's Opinion on the Use of the Title Homœopathist.—Judge George C. Barrett, of the Supreme Court of New York, sends to the *New York Medical Times* an opinion in reply to the question: "Has a physician designating himself an 'homœopathist' and called as such to a patient, any legal or moral right to adopt other than homœopathic means in the treatment of the case?" To this Judge Barrett answers: "I have your note of the 11th inst., asking my opinion upon a question of professional ethics. In my judgment there can be but one answer to your question, and that in the negative. If I call in a medical man who designates himself a 'homœopathic physician,' it is because I do not wish to be treated allopathically, or eclectically, or otherwise than homœopathically. There is an implied understanding between myself and the homœopathist that I shall receive the treatment which, by tradition and a general consensus of opinion, means small doses of a single drug administered upon the principle of *similia similibus curantur*. If there is to be any variation from that method I have a right to be informed of it and to be given an opportunity to decide. Common honesty demands that before a confiding patient is to be drugged with quinine, iron, morphine, or other medicaments, either singly or in combination, he should be told that the 'homœopathist' has failed,

and that relief can only be afforded by a change of system. An honest 'homœopath' who has not succeeded, after doing his best with the appropriate homœopathic remedies administered on homœopathic principles, should undoubtedly try anything else which he believes may save or relieve his patient. But when he reaches that point the duty of taking the patient into his confidence becomes imperative. The patient may refuse to submit to the other system or he may agree, but prefer a physician whose life has been specially devoted to practice under that other system. He may say to the 'homœopathist,' 'You have failed, but I prefer to try another gentleman of your own school, before resorting to a system that I have long since turned my back upon.' Or he may say, 'Well, if homœopathy cannot save me, I prefer to go to headquarters for allopathic treatment.' All this, gentlemen, is the logical sequence of the particular designation 'homœopathist.'"—*Medical Record*, May 4, 1889.

Medical Men and their Remuneration.—

A curious case will shortly come up for trial in a law court in Saxony, the result of which will scarcely fail to be interesting to most practitioners. A medical man was in attendance upon the wife of a rich man in Saxony. The patient was exceedingly ill, and her husband was naturally extremely anxious. For the purpose, as it would seem, of stimulating the best energies of the practitioner, the husband promised, if his wife recovered, to give half his fortune to the doctor. The circumstances were propitious for the patient, and her health became established; in short, a complete cure was effected. This result having occurred to the entire satisfaction of the husband, the latter forwarded in the course of time a large sum of money in requital of the practitioner's services. The doctor, however, refused to accept the sum in question, and claimed as his reward

the moiety of the fortune which had been promised him. The rich man's fortune was equal to £100,000, and although he seems to have agreed to dispose of half of this amount to the medical man in the event of the recovery of his wife, he now refuses to carry out his promise which he had given, and repudiates the claim which is being made upon him.

Thus the aid of the law is about to be sought in order to determine the point in dispute. The case for the doctor will, in all probability, entirely depend upon the legal evidence which he is able to produce of the agreement. It is scarcely to be supposed that any feeling of sentiment will be allowed to influence the result. The rash promises which are made in the presence of medical men, either by patients or their friends, is matter of almost common occurrence, under certain circumstances, while the rapid declension of that feeling which is called gratitude, after the danger is past, is proverbial, as far as the practitioner is concerned. In connection with the case above narrated, the doctor, if successful in securing £50,000, will be able to pride himself upon receiving the largest fee which has ever been paid to a medical man; but, generally speaking, it would require a sanguine person to believe that legally the rich man will be compelled to make good the promise into which he seems rashly to have entered.—*Medical Press*, April 3, 1889.

Aseptic Flogging.—A contemporary relates with apparent glee that flogging is likely to become the punishment of burglars taken with arms in their possession, and probably few people will entertain any unsurmountable objection to this additional infliction, if only *pour encourager les autres*. It is cruel, no doubt, but it is hardly less so to lodge a ball in the abdomen of the trembling householder who takes it into his head to remonstrate with the intruder. Admitting, then, that flogging may act as a

deterrent, and will certainly be a punishment, we would suggest that certain precautions are desirable to prevent casualties not contemplated by the law. Unless the microbial theories are a fraud, the use of a lash steeped in the sanguineous discharge of a fellow-culprit must often be followed by the inoculation of syphilis and perhaps tuberculosis, while if the previous whipping be less recent, erysipelas, tetanus, and a host of septic complications await the victim of judicial punishment. We would suggest, therefore, that since society is "cruel only to be kind," the proper course would be to enforce the observance of antiseptic precautions by sterilizing the lash by immersion in some disinfectant solution, the formulæ for which are legion.—*Exchange.*

New York Cancer Hospital.—The Fourth Annual Report of this hospital, for the year 1888, has just been issued, and makes a very favorable showing. It says: "The experience of the past year has demonstrated still more clearly the marked advantages in hospital construction to which reference was made in the last Annual Report. The circular form of the wards built in towers secures ample light, lessens the work of the nurses, and gives an air of cheerfulness not attainable by any other arrangement, while the perfect ventilation assures a degree of freedom from unpleasant odors that could hardly be expected in such an institution. These special features, together with the architectural beauty of the building, and the careful attention to every detail that can promote the comfort and the recovery of patients, were highly commended by several of the foreign delegates to the Medical Congress at Washington last September—among others by Professor von Esmarch of Germany and Sir Spencer Wells of London."

The Trained Nurse, edited and published in Buffalo, N. Y., has entered upon its

second year. It is "consecrated to those who minister to the sick and suffering in hospital and home," and serves a good purpose in furtherance of the plan of properly educating nurses, and securing just recognition for those thus educated. The cause, and the journal devoted to the advancement of that cause, merit liberal support from the public that derives the most of the benefits resulting from their good work. It is the only journal of its kind in this country. The April number contains articles on "The Relation of Hospitals to Medical Education," "Insanity, its Causes and Cure," "Articles for the Mother's Use," "Health in our Homes," "Asepsis for the Nurse," besides considerable other editorial and original matter. The monthly Hospital Supplement contains the latest hospital news from all parts of the world.

Parkes Triennial Prize.—The prize of one hundred pounds and a gold medal for the best essay "On the Etiology and Prevention of Yellow Fever" has been awarded to Surgeon R. H. Firth, F. R. C. S. Eng., Medical Staff, now doing duty at the Station Hospital, Jullundur, in the Punjab. The subject for the next prize is "The Influence of Soil as a Factor in the Production of Disease, especially in Hot Climates," and the essays must be sent in on or before the 31st day of December, 1891. The competition is open to all medical officers of the Army, Navy, and Indian Services of executive rank on full pay, with the exception of the Assistant Professors of the Army Medical School during their term of office.

Lady Medical Service in India.—Last week the foundation stone of a new Hospital for Women was laid by Lady Lansdowne at Lucknow. The Viceroy, who was present, expressed his strong sympathy with the movement for providing medical aid for women throughout the North-West

of India. It is reported that a native gentleman of Bombay has contributed 10,000 Rs. towards the cost of founding a female medical dispensary in connection with the Grant Hospital. The construction of a laboratory is being proceeded with at the latter city, destined to facilitate scientific and medical investigations and researches.

Cremation in Berlin.—The promoters of cremation in Berlin recently sought permission from the police authorities to cremate all those persons who during life had expressed a wish to be disposed of by fire after death. An order has been made refusing to grant the request.

At a meeting of the Sheffield, England, Medico-Chirurgical Society, Mr. T. Morton showed a shawl pin $2\frac{1}{4}$ inches long which a patient, a woman, had swallowed and passed per anum at the laspe of seventeen days.

American Medical Association.—The Fortieth Annual Meeting of the Association will be held in Newport, Rhode Island, June 25, 1889. The officers for the year 1888-1889, are:

President—W. W. Dawson, M.D., Ohio. **Vice-Presidents**—W. L. Schenk, M.D., of Kansas; Frank Woodbury, M.D., of Pennsylvania; H. O. Walker, M.D., of Michigan; J. W. Bailey, M.D., of Georgia. **Treasurer**—Richard J. Dunglison, M.D., Pennsylvania. **Permaneut Secretary**—Wm. B. Atkinson, M.D., Pennsylvania. **Librarian**—C. H. A. Kleinschmidt, M.D., Washington, D. C.

The Trustees of the Journal: J. M. Toner, M.D., Washington, D. C., President; John H. Hollister, M.D., Illinois, Secretary and Treasurer, E. M. Moore, M.D., New York; P. O. Hooper, M.D., Arkansas; L. S. McMurtry, M.D., Kentucky; Alonzo Garcelon, M.D., Maine; Leartus Connor, M.D., Michigan; E. O.

Shakespeare, M.D., Pennsylvania; Wm. T. Briggs, M.D., Tennessee.

The Judical Council: N. S. Davis, of Illinois; H. Brown of Kentucky; Wm. Brodie, of Michigan; D. J. Roberts, of Tennessee; R. C. Moore, of Nebraska; T. A. Foster, of Maine; Jas. A. Gray, of Georgia; J. H. Murphy, of Minnesota; Jos. M. Toner, of District of Columbia; J. K. Bartlett, of Wisconsin; A. B. Sloan, of Missouri; X. C. Scott, of Ohio; B. McClure, of Iowa; W. A. Phillips, of Kansas; A. M. Pollock, of Tennessee; W. C. VanBibber, of Indiana; Chas. S. Wood, of New York; J. McF. Gaston, of Georgia; W. H. O. Taylor, of New Jersey; Geo. L. Porter, of Connecticut; J. F. Hibberd, of Indiana.

THE OFFICERS OF THE SECTIONS.

Practice of Medicine, etc.—F. C. Shattuck, Boston, Massachusetts, Chairman; G. A. Fackler, Cincinnati, Ohio, Secretary.

Surgery and Anatomy.—N. P. Dandridge, Cincinnati, Ohio, Chairman; W. O. Roberts, Louisville, Kentucky, Secretary.

Obstetrics and Diseases of Women.—W. H. Wathen, Louisville, Kentucky, Chairman; A. B. Carpenter, Cleveland, Ohio, Secretary.

State Medicine.—J. Berrien Lindsley, Nashville, Tennessee, Chairman; S. T. Armstrong, United States Marine Hospital, New York, Secretary.

Ophthalmology.—Geo. E. Frothingham, Ann Arbor, Michigan, Chairman; G. C. Savage, Nashville, Tennessee, Secretary.

Laryngology and Otology.—W. H. Daly, Pittsburgh, Pennsylvania, Chairman; E. Fletcher Ingals, Chicago, Illinois, Secreary.

Diseases of Children.—J. A. Larrabee, Louisville, Kentucky, Chairman; C. J. Jennings, Detroit, Michigan, Secretary.

Medical Jurisprudence.—J. G. Kiernan, Chicago, Illinois, Chairman; T. C. Evans, Baltimore, Maryland, Secretary.

Dermatology and Syphilography.—L. Duncan Bulkley, New York, Chairman; W. T. Corlett, Cleveland, Ohio, Secretary.

Oral and Dental Surgery.—F. H. Reh-winkle, Chillicothe, Ohio, Chairman; E. S. Talbot, Chicago, Illinois, Secretary.

Chairman Committee of Arrangements, R. R. Storer, M.D., Newport, Rhode Island.

Canadian Medical Association.—The General Secretary of the Canadian Medical Association, James Bell, M.D., of Montreal, has issued a circular announcing that special rates have been arranged for those who wish to attend the twenty-second annual meeting of the Canadian Medical Association, which will be held at Banff, N. W. T., on the 12th, 13th and 14th of August next.

The Canadian Pacific Railway Company has agreed to carry members and delegates with their wives or members of their families at the following rates: From points in Ontario or Quebec, to Banff and return at \$95.00 each, including a double berth in sleeping car for each person, and meals in the dining cars on the way West from Montreal or Toronto and back, and four days living at the Banff Hotel.

The passage tickets will be made good from and to any points on the Canadian Pacific Railway, in either Ontario or Quebec, to Montreal or Toronto, but berths and meals will begin at these two places only.

Owing to the provisions of the Interstate Commerce law, it will be impossible to get reduced rates from points in the United States, with the exception of St. Paul, Minn., from which the following rate is offered: \$60.00 to Banff and return, including meals and sleeping car accommodation *between Winnipeg and Banff only*. Delegates from the United States are therefore requested to make their own arrangements between their homes and Montreal, Toronto, St. Thomas or other points on the Canadian Pacific Railway.

In addition to the members of the Canadian Medical Association to whom that circular is specially addressed, a cordial

invitation is extended to all members of the regular profession in good standing in the Dominion of Canada, the United States and Great Britain, to whom the necessary certificates will be sent on application to the Secretary.

Members and delegates are requested to notify the Secretary of the points on the Canadian Pacific Railway from which they intend to start at a sufficiently early date to enable the railway company to forward special tickets to the aforesaid points.

It will also be necessary to present a certificate from the General or Provincial Secretary to enable members or delegates to secure the above mentioned special tickets.

Illinois State Medical Society.—At the Thirty-ninth Annual Meeting of the Illinois State Medical Society, to be held in Jacksonville May 21, the committee appointed at the last annual meeting of the society to revise its constitution and by-laws should make a report. One of the resolutions adopted in creating that committee was "That said committee be required to mail every member of this society a printed copy of the proposed constitution and by-laws at least sixty days prior to the next annual meeting in 1889."

Unless that resolution has been complied with it would be well for the society to defer action on the report of the committee, if radical changes should be recommended, until the society has had sufficient opportunity to carefully examine the proposed changes.

International Congress of Physiologists.—A Congress of Physiologists will be held at Bale, Switzerland, beginning on Tuesday, September 10th, 1889, to discuss physiological questions and such points of anatomy, histology, physics, chemistry, experimental pathology, and pharmacology as bear directly on physiology. It is stated that it is not intended to publish any record of the proceedings of the meeting.

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***MECHANICAL TREATMENT OF HIP-
JOINT DISEASE.¹***

BY WALLACE BLANCHARD, M.D.

An orthopedic apparatus to be effective should be constructed with the anatomical relations and pathological conditions to be relieved constantly in view. Both these points would seem to have been nearly if not quite ignored in the construction of the many forms of extension splints used in hip-disease.

The Sayre, Taylor, Hutchison, Andrews and Bauer splints and their many modifications are all directed to the one object of extending the leg and thigh in a line with the body. This extension added to the power of the large mass of muscles having the pelvis for their base and centering to insertion in the femur, and with the line of their force almost directly inward, must of necessity impinge the head of the femur with augmented force into the lower half of the acetabulum; this really amounts to a partial fixation which is only increased at expense of added pressure in the lower half of the socket, while motion is only slightly impeded. The method of Dr. Hutchison, of Brooklyn, which consists of a high shoe and crutches and allowing the weight of the leg to make its own extension, and Dr. Judson's ischiatic crutch which involves

the same principle, are only less mischievous treatments; for the direction of impingement must still be into the acetabulum.

If friction be rightly defined as a combination of motion and pressure, then it is practically undiminished by any of these so-called extension-splints which we too often see patients wearing (and occasionally only under the direction of a mechanic), from the time the inflammatory stage is first discovered, along through the period of suppuration and into the stage of real shortening, until the grinding movement in the socket has so far destroyed the articulating surfaces that the often worse than useless instrument is laid aside and the patient of necessity comes to the last resort, the excision of the head of the femur. And so it happens that the English surgeon, with a sneer at "The American idea of extension," prefers to bind his patient to an inflexible splint extending from shoulder to heel on the affected side, which secures nearly complete immobility. Mr. Thomas of Liverpool introduced some years ago one of the best of this kind, and of late, in this country as well as in Europe, plaster-of-paris and other materials, as also a wire cuirass and a portable bed, have been made to serve the same purpose, but this treatment at best relieves only the other factor of friction—that is, motion.

¹ Read before the Chicago Medical Society, May 20.

It is beyond question that a really efficient apparatus for hip-disease must meet three requirements.

First. It must afford traction outward as well as downward so that the mean force exerted shall be in an axis with the neck of the femur and thus relieve from pressure all the articulating surfaces of the joint.

Second. It must afford immobility.

Third. Allow of unlimited out-of-door exercise, as far as pain or danger to the diseased joint is concerned.



It is submitted that the apparatus here described meets these requirements. It is made mainly of strip iron known as "Binding," and is bent to the form of the body by means of an ordinary monkey-wrench. The main strip should extend from the lower angle of the scapula down over the back, thigh and leg on the affected side to within two inches of the heel. To this are riveted three bands, one to fit loosely around the body just below

the armpits, a second at the knee, and the third at the ankle. A spring reaches from the crest of the ilium down over the outside of the thigh to the knee, to which is attached a wide soft padded band passing around inside the thigh, by means of which all the lateral traction which the patient will tolerate is exerted. Extension in a line with the body is had from adhesive plaster applied to the leg and counteracted by a leather belt around the waist to which the loose iron body-band is looped.

The power of both extensions being equal, the mean extension will be seen to be in an axis with the neck of the femur.

The main strip down the back, thigh and leg secures nearly complete immobility, and I have come to look at this as almost as necessary as in fractures. The surface of the splint next to the body is padded and the whole instrument is covered with sheepskin. A patten or cork sole is placed under the foot of the unaffected side, of such thickness as shall prevent the other foot from touching the floor. The patient is given a pair of crutches and told to take all the exercise in the open air that his general condition will permit. The splint should be moulded perfectly to the form and be painless to wear, or it has not been properly applied.

The joint is now protected from jar or concussion and both factors of friction are largely overcome. The adduction of the leg with the accompanying lordosis, which is nearly invariable as the disease progresses, and which is due to the unrelenting tonic contraction of the adductor muscles, is in most cases nearly or quite overcome on the application of the lateral tension band. As the adductors relax and the leg falls into the natural line with the body the upright section of the splint should be straightened so far as to conform to the improved position.

Dr. Sayre asks, speaking of the painful stage, "Why does not the joint accommo-

date itself to the increased effusion within it?" and answers; "Because there is a constant struggle going on between the over-distended capsule and the adductor muscles." Then what could be more clearly indicated than that the inflamed and ulcerated bone structure should be aided in its struggle for life against the strong and healthy but nervously contracting adductors as is done by the combined lateral and direct extension just described? There are two recognitions of the necessity of a lateral extension in the adduction screw, which is ineffective and never received much favor, and in the adduction crutch which transfers the pressure to the opposite groin and has the disadvantage of hampering the unaffected side.

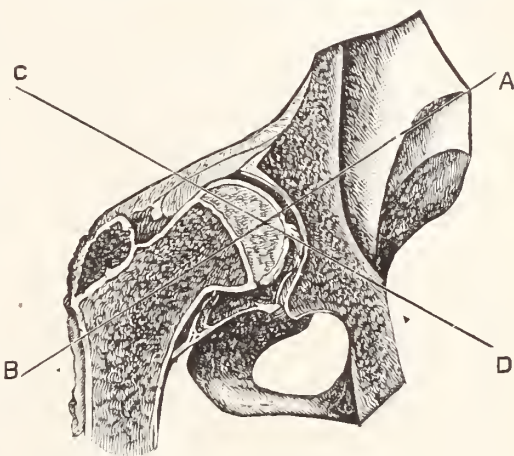
It is quite unnecessary to try to explain the painful contraction of the adductors by assuming that the obturator nerve suffers from some special irritation as is held by most orthopedic surgeons, when we reflect that the adductors arise from the pubic angle and vicinity to be inserted, taking the three as one, in the shaft of the femur for its whole length, and that they are given the long end of the lever, as it were, against all the opposing spasm-afflicted muscles, and must of necessity tire and relax all resisting muscular forces and exert a crushing influence in the joint.

Views as to the pathology of the disease have undergone radical changes in the past few years, and with a clear idea of the pathological conditions to be met, come indications for improved and more successful treatment.

Briefly stated, a central osteitis is now recognized as the usual lesion. Tubercle is deposited in the cancellated structure of the bone which softens and ulcerates into the cavity of the joint. It appears more than probable that a traumatism primarily often becomes, as the bone softens, a seat for the deposit of tubercle. Indeed, it is certain that there exists an intimate relation between traumatism and tuberculosis inde-

pendent of the fact that parents and friends are always ready with sufficient evidence to prove the traumatic theory of inception.

Statistics and general experience seem to show an average of about twenty-four per cent. more males than females afflicted with the disease, though my experience would indicate that the males were fully forty per cent. in excess. Mr. Barwell was the first to call attention some eight years ago to the large proportion of hip-disease with phimosis. The clinical reports of Charing Cross Hospital seemed to show that ninety-four per cent. of the males



VERTICAL SECTION THROUGH HIP-JOINT OF A CHILD.

(After Morris.)

A to B indicates the direction in which the extension here described is made, and C to D the direction in which the head of the femur is carried by extension in a line with the body.

admitted with hip-disease were phimosed to a greater or less degree. Though subsequent experience has shown this percentage to be much too large, still frequently an operation for phimosis is indicated.

Perhaps it was excusable to look with a feeling akin to pity on the professional friend who had diagnosed and treated a case of lumbar rheumatism or tabes dorsalis that later came under our observation as a marked case of hip-disease, until Dr. Gibney showed the not infrequent connection between hip-disease and rheumatism, and

M. Charcot demonstrated its occasional neural origin.

About twelve years ago I first applied the apparatus I have described, in a somewhat crude shape, but with a moderately clear idea of what I wished to accomplish, to two boys, each being ten years of age. One was in Mercy Hospital and the other was the son of Mr. H.—, residing on Locust street. The first was soon lost sight of and the second made a good recovery in one year, with hardly noticeable deformity, though when the appliance was first adjusted the little fellow was in a badly reduced and most pitiable condition. He had been confined to his bed for several months with direct pulley extension and persecuted with poultices, blisters, and like abominations. The leg was adducted about as far as the bone structure would permit, and there were three pus-discharging sinuses.

The first year or two of experience with the splint taught improvements in its construction and application, and in the last few years results, in patients entirely recovered and with slight or no deformity, have been accumulating beyond my most sanguine expectations.

As in all other tuberculous diseases, exercise in the open air is of the utmost importance, and with this accorded it may be safely asserted that if the joint be relieved from friction and protected from injury and a generous diet insisted upon, with such medication as each particular case may require, it will be very seldom that a patient taken for treatment in the first stage will reach the second, and the surgeon will frequently be surprised at the rapid recovery of cases taken after they have advanced well into the suppurative stage.

Occasionally a case occurs that is painfully violent in its course and that seems to have a tendency toward a rapid and complete destruction of the joint, but the conclusion must not be drawn that it will

necessarily prove less amenable to the treatment herein advocated, for such cases have frequently made a complete recovery in a comparatively short time and with but slight defect, and often none to indicate that the disease was ever present. Neither does it necessarily follow that there is any such special or general tendency to tubercular deposit as will influence a return to a diseased condition either in the joint or other parts of the body.

Confining the patient to the bed with a weight and pulley extension as is advised in many of the text books seems like a relic of barbarism and is sufficient in itself to ruin the health of an otherwise well person. It is seldom necessary even in the painful stage and is practiced only too frequently. There are several points to be noted in the treatment of hip-disease that are so clear that they seem like aphorisms, and I contend that they can only be neglected at the expense of pain, deformity, and danger to the life of the patient.

First. It is friction that destroys the delicate new tissues of repair more rapidly than nature can provide them.

Second. As friction is relieved, so proportionately are the chances of ankylosis reduced.

Third. Every ounce of extension rightly directed relieves an ounce of pressure, though with all the extension which the patient will tolerate there may be no appreciable separation of the head from the acetabulum.

Fourth. Extension prevents jar and concussion in the socket.

Fifth. Extension relaxes the muscles by overcoming reflex spasm.

Sixth. Extension to overcome adduction to the best advantage and at the same time relieve pressure in the joint must be exerted in an axis with the neck of the femur.

Seventh. With proper attention in a given case, improvement will generally be

in proportion as movement and pressure, the two factors of friction, are relieved.

Since writing the above an article appeared in *The New York Medical Record* of May 4, from Dr. Phelps of New York, recommending an "Extension corresponding to an axis with the neck" and favoring for that purpose an outside bar-attachment to the old perineal crutch, which is intended to relieve pressure, but not movement. Almost at the same time an English journal came to hand with the declaration that "Movement is a greater evil than pressure."

If this paper has a mission, it is to show that the gentlemen on both sides of the Atlantic are right to a degree, and that when they combine their methods of treatment and thus relieve both factors of friction they will have found the truly rational and really successful treatment for hip-disease.

34 MONROE STREET.

TORSION OF ARTERIES FOR THE ARREST OF HÆMORRHAGE.¹

BY DR. J. B. MURDOCH, PITTSBURGH, PENNA.

Upon no subject has our profession been more conservative than upon the manner of arresting hæmorrhage after wounds of arteries and veins. Since the time of Celsus, notwithstanding the numerous methods which have been proposed for this purpose, but two, viz., the actual cautery and the ligature, have received the indorsement of the profession. But if the profession has been slow to endorse new methods its confidence once gained has not been easily shaken. This is illustrated by the tenacity with which surgeons adhered to the actual cautery after the discovery of the ligature.

The efforts made by Sir James Simpson, of Edinburgh, to substitute acupressure, and the still more recent endeavor of Dr. S. F. Spier, of Brooklyn, to substitute

constriction for ligation have most signally failed. The same statement may be made also in regard to torsion as a means of arresting arterial hæmorrhage. It has not received the support of the profession to any great extent, but unlike the other rivals of the ligature it has had champions for hundreds of years, and still holds a place as a valuable means of arresting hæmorrhage. This subject has received but little attention by modern surgeons. The twisting of an artery to arrest bleeding is of ancient origin. It is spoken of by Celsus. A fact often observed that an arm or leg may be torn from the body with the loss of only a few drops of blood no doubt suggested the method. It has been advocated by such surgeons as Amussat, Dieffenbach, Schroeder, and Syme. But the credit of bringing it prominently before the profession and establishing its efficiency is due to Bryant, the present distinguished Surgeon of Guy's Hospital, London. At this hospital the ligature is seldom used, torsion being chiefly relied upon. Mr. Bryant tells us in the last edition of his *Surgery* that in two hundred consecutive amputations of the thigh, leg, arm, and forearm all of the arteries were twisted, one hundred and ten of them being the femoral artery, and that in no case was there secondary hæmorrhage.

Mr. Bryant says: "The physiological arguments in favor of torsion are very great, and the practical advantages seem to be no less. After seven years' experience in its practice, applied to vessels of all sizes, the femoral being the largest, I have had no mishap. I have observed that wounds have united more rapidly and kindly, primary union being the rule. There has been less constitutional disturbance after operation, and consequently less liability to traumatic fever, pyæmia, and other complications such as we are all too familiar with in the practice of surgery. I have had stumps heal in a week

¹ Read before the National Association of Railway Surgeons, at St. Louis, Mo., May 2, 1889.

and the patient up in two weeks; without one single drawback, rapid and uninterrupted convalescence following the operation."

Having given this experience of Mr. Bryant, I desire now to give my own as observed at the Western Pennsylvania Hospital of Pittsburgh. At this hospital torsion is almost exclusively relied upon to check the hæmorrhage from wounded arteries or veins, whether the wound be produced by the surgeon's knife or otherwise. My experience with torsion, as a hæmostatic, dates back to the year 1872, when I became a member of the hospital staff. My colleague had, previous to my connection with the hospital staff, been twisting arteries as large as the radial and ulnar. The facility with which this was done, and the fact that the wounds healed kindly and without secondary hæmorrhage, induced me to follow their example, at first timidly, but with success came confidence. Having been successful in the amputation of a forearm with no untoward result, I ventured next to twist the brachial after the amputation of an arm; soon after this the axillary and then the popliteal, and finally the femoral. And now for the past fourteen years torsion for the arrest of hæmorrhage after all surgical operations has been the recognized, and almost the only method resorted to at this hospital. It is to be regretted that records have not been kept of the number of large arteries which have been twisted to arrest the hæmorrhage.

The following is a table showing the number of arteries divided in cases of amputation where torsion has been resorted to for the arrest of hæmorrhage at the Western Pennsylvania Hospital:

Femoral.....	95	times.
Popliteal.....	14	"
Axillary.....	15	"
Anterior tibial.....	276	"
Posterior ".....	276	"
Brachial.....	62	"

Radial.....	40	times.
Ulnar.....	40	"

The manner in which the torsion was applied in these cases is the same as described by Mr. Bryant in his Surgery:

"A good pair of forceps is required which will hold the end of the artery firmly, that has no lateral motion, and with serrations blunt enough to obviate any laceration or cutting of the parts seized by the blades. The vessel should then be drawn out as in the application of the ligature and three or four sharp rotations of the forceps made. In large arteries, such as the femoral, the rotation should be repeated till the sense of resistance has ceased. The ends should not be twisted off. In small arteries the number of rotations is of no importance and their ends may be twisted off or not, as may be preferred. In all of the cases mentioned in the above table torsion of the arteries and veins was the method resorted to to control hæmorrhage.

In addition to these cases, of which we have a record, the method of torsion has been the one resorted to in all other surgical operations performed during this period, such as amputations of the female breast, the removal of tumors, the excision of joints, etc. It is within bounds to say that torsion has been resorted to at this hospital in thousands of cases without any mishap. We have had no case of secondary hæmorrhage which could fairly be attributed to the method of controlling the hæmorrhage.

The advantages of torsion as compared with ligation are:

1. The greater facility with which it can be applied.

I am fully aware that this proposition is disputed, but to those who are familiar with both methods there can be no doubt that torsion is the easier of the two. For the ligation of an artery an assistant is required to seize the vessel and draw it out while the ligature is applied. For

torsion the surgeon requires no assistant. The vessel must be seized by the forceps in either case. In torsion it only requires three or four turns of the forceps to complete the process which can be accomplished in as many seconds. When a ligature is applied, let the operator be ever so skillful, the thread may break or slip off the vessel, but if neither of these accidents occur, the process can not be accomplished in anything like the same time.

2. Torsion is a safer method, being less liable to be followed by secondary hæmorrhage.

This proposition has been absolutely proven by the experience in the use of torsion at Guy's Hospital, London, and I have now given additional proof by the experience given in this paper.

3. Healing is facilitated because the wound is free from any irritating or foreign body.

This proposition is so plain that it should not require an argument. It was true before the antiseptic treatment of wounds had come into such general use, but is doubly so now. The catgut ligature is no doubt a safer ligature than the silk, for it does not require an ulcerative process for its discharge, and when this ligature has been made thoroughly antiseptic, it is no doubt the best. But a ligature rendered thoroughly antiseptic is not always at hand, and those surgeons who have had most experience with the antiseptic treatment of wounds will, I think, be the first to admit that in spite of their most careful attention septic germs are often introduced into the wounds by means of the ligature. Even after over-protection in preparation and preservation, the handling of a ligature in its application is a frequent source of infection.

But there are other objections to its use. The catgut ligature may dissolve before the artery has become closed by the natural hæmostatic process, or it may unbind.

Both of these accidents have been the frequent cause of secondary hæmorrhage.

On a recent visit to some of the principal hospitals of New York City, where the operators and assistants possessed the greatest skill, I was not surprised to see that in many instances a ligature broke, and in other cases slipped off the vessels before they were secured. This was to me exceedingly annoying to witness, when I knew that the vessels could have been so easily twisted while they were in the grasp of the forceps. When the question was asked one of these operators, a distinguished surgeon, Why don't you resort to torsion? the reply was, "we are afraid to trust it." This answer might have been given with equal force by Richard Wiseman in the 17th century when asked why he did not resort to the ligature instead of the red-hot iron.

In a matter so important as the arrest of arterial hæmorrhage, it is proper that surgeons should be conservative, but there is such a thing as pushing conservatism too far. In the torsion of arteries I claim we have an improvement upon ligation; its claims for recognition rest upon physiological arguments which can not be shaken, and its reliability as a hæmostatic has been proven by abundant experience.

EXTRACTS AND ABSTRACTS.

A Successful Case of Loreta's Operation on the Stomach.—By FREDERICK TREVES, F.R.C.S., Surgeon to, and Lecturer on Anatomy at the London Hospital.

So far as I am aware, only one successful case of Loreta's operation for non-malignant stricture of the pylorus has been recorded in this country. This single case was fully reported in the *Journal* for February 19th, 1887. The operator was Mr. Robert Hagyard, of Hull. The patient was a woman, aged 51, who had been troubled with gastric symptoms for five years. She had become greatly emaciated;

she was unable to take any food by the mouth, and the stomach was extremely dilated. No tumor could be detected in the vicinity of the pylorus. The operation was performed on March 7th, 1886, and the woman made an uninterrupted recovery. Mr. Hagyard, in a letter to me dated February 21st, 1888, writes: "The patient is perfectly well, there being no return of the symptoms of obstruction. The dilated stomach, which was so difficult to lessen, has now subsided, and my patient has just recently married again." A more admirable result modern abdominal surgery could scarcely claim.

The present patient was a carman, aged 27, who was admitted into the London Hospital under the care of Dr. Ralfe, on October 12th, 1887. He was suffering from vomiting and from severe gastric pain. There was nothing noteworthy in the patient's family history. With regard to himself, he had never had any previous illness of a definite kind. He had, however, led an irregular life, and had been a heavy drinker. His general health had suffered in consequence of his intemperance. He had never had syphilis. Three years ago he was kicked by a horse in the epigastrium. He became collapsed, and suffered much abdominal pain: he believes he vomited. He thought little of the injury, and was only laid up seven days. Eleven months before his admission into the hospital he began to experience gnawing pains in the belly in the region of the epigastrium. Previous to this he had had attacks of "disordered stomach," had impaired appetite, and occasional "bouts" of vomiting. He ascribes these symptoms to excessive drinking. The gnawing pain was a new feature. The pain increased in severity and in duration. It was paroxysmal, came on at intervals of one to three days, and appeared usually a short time after a meal. Very soon each attack of pain was followed by vomiting. The matter ejected was described as brownish, and

he states that on each occasion he brought up a quart or so. The vomiting gave him relief.

The pain became more severe, and shot through to his back. He never passed a day without vomiting: he began to lose flesh, and was afraid to take food. During some of the attacks he stated that he became a little yellow. He does not appear to have ever had distinct jaundice. Some months before admission he had commenced the use of morphine, which he ultimately took on every opportunity. He now suffered from constipation.

On admission (October 12th, 1887) he was very feeble, anæmic, and much emaciated. He complained of an incessant gnawing pain in the right hypochondrium, and of occasional attacks of severe paroxysmal pain in the same region. During these attacks he would roll about in bed and scream, but it is possible that the paroxysms were a little colored by his craving for morphine. The pain came on every few hours on some days, and was described as resembling colic. It was almost immediately induced by taking food. So marked was this that he was afraid to eat. He vomited copiously at least once every day, and was troubled with eructations of foul gas. The bowels acted about once a week. The tongue was broad, pale and flabby, the pulse feeble, the temperature normal. An examination of the abdomen revealed a great dilatation of the stomach; there was much tenderness complained of in the epigastric and right hypochondriac regions. The seat of the greatest pain was a spot about one inch and a half above the umbilicus. This pain was always described as shooting back to the spine. There was no jaundice; the urine was scanty but normal; the liver, spleen, lungs, and heart were reported as healthy. On the day after admission the patient vomited three quarts. When the stomach was empty, a little dullness was made out in the vicinity of the pylorus. It blended with the area

of hepatic dullness. No tumor of any kind could be detected. The patient had never vomited blood, nor does blood appear to have been passed by the bowel.

The stomach was washed out daily, and very little food was given by the mouth; nutrient enemata were commenced, and the pain was a little modified first by salicylic acid and later by cocaine. Although the pain and the vomiting were lessened, the patient did not exhibit any general improvement. He continued to waste and to lose strength.

On October 31st, œdema of both feet appeared.

On November 14th the report was to the effect that he was more emaciated and more anæmic, and was so weak as to be unable to sit up in bed. He was now fed solely by nutrient enemata, taking only a little fluid by the mouth. He was always found lying on the left side, with the knees drawn up.

On November 30th it was evident that the patient could not live many days longer unless he was relieved. To his previous symptoms diarrhœa had been added. He was extremely feeble and utterly apathetic.

Dr. Ralfe had formed an opinion that the case was one of non-malignant stricture of the pylorus. At his request, I arranged to make an exploratory incision, and if necessary to dilate the pylorus.

The operation was performed on December 3d, 1887. Chloroform was administered, and the operation was carried out under the spray. Carbolic acid lotion of the strength of 1 in 40, and warmed to the temperature of 90° F., was used throughout the operation. All the sponges used were warmed.

I made a vertical incision, four inches in length, in the median line. The lower end of the cut reached as far as the umbilicus. The greatly dilated stomach was at once exposed. The pylorus was at first difficult to define. It appeared to be im-

bedded in a mass of almost cartilaginous hardness, which was firmly adherent to the under surface of the liver. Not only was the actual pyloric extremity of the stomach adherent to the liver, but a portion of the viscus itself, to the extent of some three square inches, was in like manner attached.

It was evident that the adhesions were inflammatory, and that they were especially tough and thick in the region of the pylorus. I divided the adhesions as freely as was possible. The segment of the liver to which they were attached was pale, and had the appearance of being atrophied. It was found impossible to quite free the pylorus, and to entirely separate the stomach from its attachment to the liver.

I then made a vertical opening into the stomach midway between the two curvatures and about two inches from the pyloric orifice. Before this opening was made the stomach was drawn as far forward into the wound as possible, and was gently held by a small pair of dressing forceps, the blades of which were protected by india-rubber. The interval between the viscus and the parietes was plugged with sponges so that any fluid escaping from the stomach would have been prevented from reaching the peritoneal cavity. To avoid bleeding in opening the stomach I think that the incision should be vertical, and should not be too near the pylorus. It should be scarcely large enough to admit the index finger, with which it is at once plugged. In Mr. Hagyard's case, the bleeding at this stage of the operation is described as "terrific." A rush of escaping gas followed the opening of the stomach, but as the wound was at once plugged with the right forefinger no fluid escaped and there was no bleeding. Within the stomach the portion of the gastric wall still adherent to the liver could be well made out. It was perfectly smooth. The pylorus was surrounded by a ring of very dense tissue, and appeared to be set in cartilage. It would not take the point of

the forefinger. I steadied the pylorus with the left hand while I gradually bored the right forefinger into the constricted orifice. The process of dilatation was slow, but in time the finger was introduced into the duodenum. Without withdrawing the finger from the stomach I enlarged the wound in the viscus with a bistoury held in the left hand, and passed the middle finger into the stomach. The wound even now was small, and the fingers were closely embraced by the gastric wall. Under such conditions hæmorrhage was scarcely possible. The middle finger was passed through the pylorus, and the forefinger inserted slowly after it. In a little while the orifice was sufficiently dilated to take the two fingers. During the process the pylorus was steadied by the left hand. This dilatation appeared to me to be quite sufficient, because an orifice admitting the two fingers together would have a circumference of about four inches. Loreta is reported to dilate the pylorus with the two forefingers until they are more than three inches apart. This would represent an opening with a circumference of not less than seven inches. Had dilatation to this extent been attempted in the present instance the walls of the viscus would certainly have been ruptured.

The wound in the stomach was now closed by a continuous suture of fine silk. This suture included the mucous and muscular coats, and was introduced by means of a Hagedorn's needle. The silk was so applied as to arrest some little bleeding that was occurring from the edges of the incision. The ends of the silk were cut short, and the wound was then completely closed by many points of Lembert's suture, which involved the serous coat only. The parts around the operation area having been cleansed, the abdominal wound was closed by deep interrupted sutures in the usual way. The wound was dressed with a single sponge dusted with iodoform. This was firmly secured in position by

means of a broad and tightly applied flannel binder. The temperature on the evenings of the third and of the eleventh days rose to 100° ; with these exceptions it remained normal.

The patient at once experienced relief from the operation. He was kept under the influence of morphine, and was fed by nutrient enemata; he was allowed to suck a little ice to relieve thirst; there was no return of the vomiting. On the seventh day the stitches were removed, and the wound supported by gridiron strapping. On the evening of this day the patient vomited a little; this was the first and only time that he was sick after the operation. He became greatly excited during this attack of vomiting, sat up in spite of all remonstrances, and made violent efforts to get out of bed; he persisted in yelling for nearly an hour. As a result of these exertions the wound, which had healed by first intention, gave way, and the stomach was once more exposed. The margins of the incision were at once brought together by means of long strips of plaster, and a strong binder was applied. As the sickness was apparently due to the decomposition of accumulated mucus in the dilated stomach, that viscus was now washed out every other day with a little warm boracic lotion. This gave the patient great relief; the nutrient enemata were continued.

On the ninth day a little milk and soda water was given by the mouth; the quantity of food thus administered was gradually increased each day. The nutrient enemata were continued until the fourteenth day, when they were finally omitted. The patient after that date took all his food by the mouth.

On the eleventh day some solid food was given in the form of toast soaked in tea. The washing out of the stomach was discontinued on the seventeenth day. The patient complained of no pain, but remained very restless, and persisted, except when restrained, in sitting up in bed. The wound

healed by second intention. The bowels acted regularly and without aid after the enemata had ceased to be used.

On the 20th day the patient was allowed to leave his bed. Four days after this he insisted upon leaving the hospital, and walked without assistance to the door. He had now no pain and no sickness and was taking his food well; the stomach was, however, still much dilated, and the wound was not firm. It was intended that massage should be applied to the abdomen, but no arguments would induce the patient to remain in the wards.

The man presented himself at the hospital at the end of two or three months. He was greatly improved in health, could eat well, was never troubled with sickness, and had no difficulty with his bowels. He complained of a sense of weakness at the wound. The cicatrix had yielded considerably, leading to some protrusion of the contents. A stout belt was ordered, and with this he expressed himself as feeling quite comfortable.

I saw the patient again in December, 1888, about twelve months after the operation. He now complained only of poverty. He had an excellent appetite, and was troubled with neither sickness nor dyspepsia. He had returned, so far as his very limited means would allow, to his previous intemperate habits. He still wore his belt, and the stomach appeared to have entirely returned to its normal dimensions.

It is evident that this operation must of necessity be of very limited application, since the examples of non-cancerous stenosis of the pylorus are quite rare. The procedure has been carried out with astonishing frequency on the Continent, and it would be interesting to know the precise pathological condition which has been found to be associated with these operations. The specimens in the various museums in London throw little light upon the fibrous stricture of the pylorus of which

so frequent mention is made in Continental literature.

In the present case the narrowing of the pylorus appeared to be, to a great extent, due to the contraction of peritoneal adhesions. The trouble may have originated in an injury to the stomach due to the kick from a horse, or may have followed upon a perforating ulcer at the pyloric extremity of the viscus.

Epithelioma of the Lip, Based on the Records of 100 Cases.—By W. ROGER WILLIAMS, F.R.C.S.

ANALYTICAL SUMMARY OF 100 CASES OF EPITHELIOMA OF THE LOWER LIP IN MALES.

Seventy-two of these cases were consecutively under treatment at the Middlesex Hospital during the last 13 years, the other 28 cases were under treatment at University College Hospital during the 7 years 1880-86, *q.v.* the Registrar's report.

AGE.—The earliest age at which the disease was *first noticed* was 26 years, the latest 75.5 years, the mean age 52.4 years.

The numbers for each quinquennial period in 100 cases are as follows:—

Age.	Cases.	Age.	Cases
25 to 30 years.....	5	55 to 60 years.....	13
30 to 35 ".....	3	60 to 65 ".....	14
35 to 40 ".....	7	65 to 70 ".....	9
40 to 45 ".....	10	70 to 75 ".....	4
45 to 50 ".....	14	75 to 80 ".....	1
50 to 55 ".....	20		

TOTAL DURATION OF LIFE.—In 19 fatal cases the total duration of life, dating from the time when the disease was *first noticed*, averaged 37.7 months.

(a) In 7 of these cases the disease ran its course *without any operative interference*; their average duration of life was 16 months, the longest 31, the shortest 7 months.

(b) In the other 12 cases the *primary disease had been excised*; their average duration of life was 50.5 months, the longest 96.6, the shortest 10 months.

DURATION OF LIFE SUBSEQUENT TO EXCISION OF THE PRIMARY DISEASE.—In 12 cases

the average was 29 months, the longest 96, the shortest a few hours. The subject is further illustrated by the subjoined table:—

Duration of life subsequent to excision of primary disease in 12 cases.

Age.	Cases.	Age.	Cases.
Under 1 month.....	1	24 to 30 months.....	2
6 to 12 months.....	2	48 to 54 ".....	1
12 to 18 ".....	2	60 to 66 ".....	1
18 to 24 ".....	2	Over 66 ".....	1

THE ORIGINAL SEAT OF THE DISEASE.—This was noted in 59 cases, with the following result:—

R. half of lower lip in.....	21 cases.
L. half of lower lip.....	12 "
Middle of lower lip.....	13 "
Angle of mouth (L.).....	4 "

THE MODE OF ORIGIN.—In 30 cases the initial lesion is described as having presented the following characters:—

Small sore or ulcer in.....	16 cases.
Small hard nodule or lump... 7 "	
Crack.....	5 "
Hard white speck.....	1 case.
Wart.....	1 "

Out of 50 primary cases, more than a single cancerous lesion presented in five, but in every case the disease was unilocal in its origin.

OCCUPATION.—This was stated in 36 cases as follows:—Farm laborer in 5 cases, general laborer in 5, sailor in 3, bricklayer in 2, and 1 each of the following: saddler, cowman, blacksmith, stoker, paper factory, piano factory, sewerman, bailiff, gardener, brazier, carpenter, gasfitter, costermonger, coachman, carman, commercial agent, boatman, waiter, soldier, foreman, and groom.

ÆTIOLOGICAL.—There was a history of previous injury or disease of the lip in 35% of all the cases.

Of 29 cases in which inquiries were made there was history of previous *injury* in 6, irritation by rough tooth in 1, by plate of artificial teeth in 1, by scratch from meat hook in 1, by holding copper nails in lips in 1, by sting of wasp in 1, and by blow from a stone in 1 case.

Of 26 cases there was history of previous *disease* of the lip (ichthyosis) in 3.

Of 26 cases in which inquiries were

made as to *smoking*, etc., 16 had been great smokers, and 8 moderate smokers; 5 of the smokers had chewed as well; 2 had never smoked nor chewed.

PREVIOUS HEALTH.—Of 25 cases in which inquiries were made, the previous health is stated to have been good in 24 (with no serious illness since youth in 8), and in 1 case it had been indifferent. Syphilis is *not* included in this statement.

The occurrence of *Cancer*.—Of 87 cases in which this point was specially investigated, there was history of *cancer* in 5 families, or in 5.7 per cent. The *relatives* thus affected and the *seats* of the disease were as follows:—

1. Patient's 2 sisters died of cancer, 1 of *breast* the other of *uterus*.
2. Patient's *mother* died of cancer of *breast*.
3. Patient's *father* died of cancer of *cheek*, and his *mother* died of "internal cancer."
4. Patient's *father* died of cancer of *lip*.

PRIMARY OR RECURRENT.—73 cases were primary and 46 recurrent. Several of the primary cases manifested recurrence before leaving hospital, and are here reckoned twice.

The average *interval* between the *first operation* and the *first obvious recurrence*, in 41 cases, was 20 months, the maximum 110 months.

The following table further illustrates this subject:—

Intervals in monthly periods. Numbers for each period in 41 recurrent cases.

Age.	Cases.	Age.	Cases.
Under 1 month.....	2	24 to 30 months.....	5
1 to 2 months.....	3	36 to 42 ".....	2
2 to 3 ".....	6	48 to 54 ".....	2
3 to 4 ".....	4	60 to 66 ".....	2
4 to 5 ".....	3	66 to 72 ".....	1
5 to 6 ".....	2	72 to 78 ".....	1
12 to 18 ".....	7	Over 110 ".....	1

In 29 of these 46 cases the initial situation of the recurrent disease was at the *primary seat*, in 4 cases it was *near the primary seat*, but not at it, the scar of the former operation being quite sound.

In the other 13 cases the initial situation of the recurrent disease was in the *adjacent lymphatic glands*, the scar at the seat of the primary disease remaining healthy.

Condition of the lymphatic glands.—In 72 primary cases there was obvious enlargement of the adjacent lymphatic glands in 36, or in 50 per cent.

In 28 recurrent cases there was obvious glandular enlargement in 25, or in 89 per cent.

TREATMENT AND RESULT.—The disease was *excised* in 64 primary cases with but a single death.

In 51 cases the *lymphatic glands were not touched*. All of these recovered. The average duration of their stay in hospital was 18 days.

In the other 13 cases *glands were dissected* out as well. The single fatal case belongs to this group. This patient died of traumatic pneumonia shortly after prolonged artificial respiration for syncope under chloroform. The average period of their convalescence 20 days.

There were 20 operations for *recurrent* disease, without a single death. In 11 of these cases *glands were dissected* out. The average duration of their stay in hospital was 46 days. The average period of convalescence of the other 9 cases, in which *no glands were removed*, was 15 days.

The *causes of death* in 12 other cases were as follows: Asthenia in 8, oedema of glottis in 2, hæmorrhage in 1, and cystitis with suppurative nephritis in 1.

LYMPHATIC GLANDS.—In every case but one the adjacent lymphatic glands were infiltrated; in 8 cases those of *both* sides of neck and the submental; in 3 cases those of left side of neck; and in 1 case those of right side.

In 6 cases the *inferior maxilla* was infiltrated and atrophied, and in 4 necrosed as well.

SECONDARY DEPOSITS.—Of these 13 neoprosies there were secondary deposits in

other parts of the body in 2 cases, or in 15.4 per cent.

The parts thus affected were:—

Lungs (R. 1, L. 1) in 2 cases.
Kidney (R.) 1 case.

—*The Medical Press*, May 1, 1889.

Peculiar Action of Potassium Iodide in a Case of Syphilitic Rhinitis.—Reported by FRANK P. HUDNUT, M.D., to the Medical Society of the County of Kings, February 19th, 1889.

Mr. D—, aged forty-five, a widower, of sober and temperate habits. Four years ago he contracted syphilis, which ran the usual course. For the past six months he has had more or less discharge from the nose with considerable pain in the frontal region. The discharge was of a greenish color and very fetid at times.

Upon examination, I found a condition of syphilitic rhinitis. The septum was swollen and ulcerated, about an inch back from the meatus. Upon the introduction of a probe, I discovered necrosed bone, and passed the probe into the other nostril through a small opening.

Spraying the parts well with cocaine, I removed, with a dressing forceps, several large pieces of necrosed bone, amounting in the aggregate to the size of a two-cent piece. Upon examining the larynx, found the parts normal, cleansing the nose thoroughly with permanganate of potash, two grains to the ounce, and coating the membrane with iodoform, I exhibited ten grains of the iodide of potash three times a day, and requested him to call again in three days. At subsequent visits I removed more bone, until healthy tissue was reached, but not until nearly all the septum had been removed, the cartilaginous portion remaining intact.

As there continued to be a large amount of matter discharged from several ulcerated spots, I made an application of nitrate of silver, fused on a probe, to these spots,

and sprayed the nose with a ten grain to the ounce solution of argenti nitras. After using this solution several times the discharge ceased. As there was considerable hypertrophy of the turbinated bones and some deflection of the septum (cartilaginous portion), I removed the superabundant parts with the cautery and knife, being careful not to weaken the septum too much. I had been increasing the iodide every visit until he was taking ninety grains a day up to this time (about three weeks).

No symptoms of iodism were observed, unless it was a slight increase in the action of the bowels and an appreciable metallic taste. His general health improved very much, and he expressed himself as feeling very well. After he had been taking the ninety grains of iodide each day for three days, he came to me very much alarmed. I found he had an attack of subacute laryngitis, his voice was very hoarse, and his larynx very much inflamed. After cleansing the parts well with Dobell's solution, I sprayed the larynx with argenti nitras, 20 grains to the ounce. Continuing this treatment for several days and finding no improvement, I decided to stop the iodide and see what effect this would have. On going three days without the iodide, I noticed a decided improvement in his condition. Being aware of the fact that iodide would produce coryza, and in some cases a slight laryngitis, I became very anxious to find out if the iodide was producing the irritation. In order to decide this, I directed him to resume the iodide again in the same doses as before, and to report in three days. In the meantime I gave him no treatment.

Upon the next visit I found him even worse than at the beginning of his trouble; he could not speak above a whisper. I then stopped the iodide entirely, giving no treatment. In three days he was much better, and at the end of a week he was well. I then reduced the dose to ten

grains three times a day, and since then he has had no trouble.

In looking up the effects of iodide on the larynx by various authors, only slight reference is made to the action of the iodide on the larynx, and then only when iodism has been produced. Bartholow describes it as a hoarseness and accompanied by coryza, with a rise of temperature. I cannot but feel in this instance that the inflammation of the larynx was entirely due to the iodide.

My object in making note of this case was to draw your attention to the liability of throat complications when using iodide in the treatment of syphilitic affections. Of course the danger is very slight and you might treat many cases without finding one presenting similar symptoms; still, it is well to bear in mind the danger of such complications.—*The Brooklyn Medical Journal*.

Enteric Fever in India.—Having recently discussed this subject, we only revert to it now because our attention has been invited to the letters of "Medicus," published in the *Pioneer*, one of the leading newspapers in India. "Medicus," while of the opinion that the earth system of disposing of sewage is the best for India, if carried out in a proper way, shows that in certain important cantonments this is very far from being the case. Take the following description: "The trenches are dug often two or three feet deep, and are more than half filled with sewage, then covered over with refuse. In the dry weather these trenches rise into mounds, and in the rains sink into quagmires of decomposing filth, becoming the very breeding grounds of enteric fever." "Medicus" dwells on what he conceives to be a mistake on the part of the authorities. Great expense has been incurred, and properly incurred, in bringing a supply of as pure water as is attainable into cantonments, but leaving the bazaars, in the close vicinity of the

military stations, unsupplied with the same. The result being, as has been a thousand times pointed out, that the aerated drinks which the soldiers consume in such places are made with water grossly impure. Another source by which the enteric fever is carried into the system is by the underclothing of the men being washed in tanks which are nothing else than imperfectly diluted sewage. The same author presses a point which is worthy the serious attention of the authorities in the face of the yearly increasing mortality from enteric fever.

At present the sanitation of our cantonments is chiefly in the hands of cantonment magistrates, a body of officers quite unfit for the work of health-officers. At best they have zeal without knowledge; many of them are without either. Thus it comes about that sources of disease are left uncared for, often, as we have just shown, from ignorance, as often from indifference. There is some evidence in the letters under notice of a danger growing up near our cantonments in India strictly analogous to one that was a powerful factor in the propagation of yellow fever in the West Indies. Sewage is, no doubt, removed from the immediate vicinity of the barracks, but it is too often disposed of in the manner thus described by "Medicus:"—

"A field of a few acres is taken some distance from the barracks. A track, not a regular road, leads to it; by this the sewage, solid and fluid, is carted. Some half a dozen sweepers at most dig trenches about ten feet long by one foot wide and two or more in depth; into each trench one cartload or more of filth is placed, which is then closed with loose earth. The site is subsequently cultivated or not; in many cases it is not, but in either case the amount of filth is so great and at such a depth that no cultivation can purify it; in fact, it is hidden and not purified. If the spores of glanders, after the cremation

of animals dying from that disease, exist in the soil where this *débris* has been buried after a lapse of twenty years, what under the above conditions can we expect of those of enteric fever? They require heat and moisture for their development, and under this system of sanitation they are given the very conditions necessary to their production. In every large cantonment at least 500 acres should be devoted to a sewage farm; it should be carefully fenced in. The excreta should be treated with dry earth, to which a small quantity of lime might be added when placed in the receptacles before being carted off. The resulting compound should be placed on the surface of the ground and dug into the soil, trenches never being used. This ground ought not to have a fresh application for five years."

"Medicus" is of opinion that the only remedy for this dangerous condition of things is the appointment at the great centers of military population in India of health officers. This means money; alas! there is, there can be, no efficient sanitation anywhere without the expenditure of money. Our author seems to think that some retrenchment for this purpose could be made in the direction of the great amount spent in the "higher education" of a certain class of natives, who, we must admit, seem disposed to turn this "education" to a bad account. It should, at all events, be kept in mind that every European soldier whose life is wasted is a money loss to the State of £200.—*The British Medical Journal*, April 27, 1889.

Notes of a Case of Sclerema Neonatorum.

—Reported by Alfred G. Barrs, M. D. On March 6th, 1888, A. Y., aged one month, apparently in good health, was brought to me for an intense livid redness of the nates, corresponding pretty much to the surface covered by her napkin, and extending downwards well into the popliteal spaces. The surface, which was uniformly

affected, was dry and polished, and the redness disappeared to a great extent on pressure. The appearances were obviously not due to any eczematous condition. The lower limits of the condition tailed off into papules of varying size, which had not the same characters as the general body of the disease. Looked at more closely, the change was seen to affect the parts limited above by the iliac crests: below by the lower borders of the popliteal spaces, and laterally by the line of the ilio-tibial band. Over the whole of this area the skin and subcutaneous tissue, and it almost seemed the still deeper parts, felt as though infiltrated and welded together by some solid material, producing a very close resemblance both in color and consistency to that of an uncooked ham. The firmest pressure produced not the slightest pitting. The pudenda were not affected. The cleft of the nates had been reduced to a mere line by the mutual pressure of the two sides, converting its naturally rounded surface into a sharp rectangle. It was quite impossible to separate the skin from the subjacent parts at any point in the affected area. One or two isolated patches of a precisely similar nature were found in the right deltoid region. There was nothing in the family history, or in the child's condition, to suggest syphilis or any diathetic or local cause for the disorder. The mother stated that the condition had been first noticed on the fourth day after birth (though it might have been earlier) on the back of each thigh, just above the popliteal space, and had gradually spread till it had attained the limits above described in the course of about ten days, since which time it had been stationary or nearly so. I ordered the parts to be protected as much as possible from any excoriation by the napkin and excretions, and half a grain of grey powder to be administered night and morning.

On March 13th, the redness was a little less marked, the surface was still dry and

polished, and except that there was only a slight disappearance of the condition at its lower part, the brawny state continued the same in character and distribution. The child's general condition continued to be quite good.

On March 20th, the child was growing and thriving, and was clearly not in the least affected by the local condition. The hardness was disappearing, its margins retiring towards the centers of the buttocks. The redness was much less.

On April 3rd the condition had almost entirely disappeared, and on May 1st the child was reported to be quite well in every way.—*The British Medical Journal*, May 4th, 1889.

The Treatment of Ingrowing Toenail.—

As I have had some very troublesome cases of the above to treat, I may be allowed, perhaps, to supplement Mr. Scott Battams' memorandum by advice which will, I trust, not only aid in the cure, but, what is far better, prevent the occurrence of this troublesome complaint, and when cured, prevent its recurrence.

In the first place, I never remember seeing a case where the inner side of the great toe was affected. As a rule, it is the outer side. I believe the complaint is due to pressure of the great toe on and against the second toe, by narrow-toed boots; this naturally has a tendency to push the flesh over the outer angle of the nail.

In the second place, I am inclined to think the complaint is caused, and certainly it is aggravated, by cutting the nail down at the corners, and not allowing it to grow square: this, *plus* the pressure of the boot, may account for the inner side of the toe becoming affected.

Recognizing these as the two main causes of the complaint, the preventive treatment is obvious, namely, allowing the nails to grow square, never to cut down at the corners, and the wearing of boots sufficiently wide and deep to prevent any

pressure on the toes. For the cure of the complaint I would recommend an elongated wedge of cotton-wool, lint, or soft linen rag (as more likely to be retained than sponge) carefully tucked in (with a wooden match, flattened at one end) between the flesh and the nail, the end of the wedge being tucked under the angle, as far as possible, of the offending nail, which may sometimes be found buried away under the granulations. The relief at once is great, and a complete cure usually results in a week or so.

The nitrate of silver or other caustic may sometimes hasten the cure, but I have never found it necessary to use strapping over the cotton-wool, as this must cause some pressure when walking, and, if a proper quantity of wool be tucked in firmly but gently, it will be retained till the following day, when it should be changed.—*G. F. Poynder, in The British Medical Journal.*

Case of Salivary Calculus: Removal.—

FRANCIS W. CLARK, L.R.C.P., reports in the *British Medical Journal* the following case which is of interest from the comparative rarity of cases of salivary calculus, and also from the long duration of the symptoms.

J. B., a young man, aged 29, applied to me on the morning of Tuesday, February 12th, complaining of a swelling under the left angle of the lower jaw. This tumor, on first examination, was found to be about the size of a horse bean, and the patient stated that every time he ate a meal, or even smelt a savory dish, the tumor rapidly swelled, and sometimes attained the size of his fist, in the course of a few minutes. When swollen the tumor caused him considerable pain; but as it subsided, which it did in the course of some half hour or less, the pain also ceased. He stated that he had had the swelling for more than four years, and had, on several occasions, been advised to have the tumor removed, but had demurred.

My first impulse was to test the man's statement as to the tumor swelling up so rapidly, and accordingly I gave him an apple to eat, and I found that the swelling did rapidly increase to several times its former size. I next examined his mouth, and found that the cause of all his trouble was a salivary calculus, blocking Wharton's duct, and I then elicited from the patient that ever since he had noticed the swelling he had been troubled with dryness of the mouth, which was most noticeable on the left side. I explained the circumstances of the case to the patient, and he at once agreed to my removing the calculus; but I found that it was impossible to do this single-handed, owing to the difficulty in fixing the tongue, so I then endeavored, and was fortunately successful, in opening Wharton's duct between the calculus and the gland, and so obviated any further swelling of the gland by the accumulation of the saliva. I then arranged that he should come to me again on the following Sunday, and on that day I was able, with the valuable assistance of my friend, Mr. H. Loyd-Williams, to remove the calculus. The patient informed me on this day that the gland had not swelled up at all since my former operation, but he complained somewhat of an excess of saliva in the mouth, and of an unpleasant mawkish taste. This was due, no doubt, to his having been for so long accustomed to a comparatively dry mouth, and the taste to the discharge into the mouth of saliva, which had long stagnated in the gland.—*Brit. Med. Jour.*

On the Cocaine Habit in Diseases of Throat and Nose. LENNOX BROWNE, in the *British Medical Journal*.—From the frequency with which samples of so-called voice lozenges containing cocaine are forwarded to me by druggists, I presume there is a demand for the same, unless, indeed, as is not unusual in the present day, the pharmacist is endeavoring to educate the physician into the conviction of a want

which he had not hitherto experienced. I also observe that patients are frequently prescribed, or obtain without prescription, cocaine solutions of considerable potency, for constant use by brush or spray with the purpose of relieving quite slight symptoms of chronic conditions. I venture, therefore, to utter a word of warning against this growing inclination to cultivate a cocaine habit: and without entering into the question of constitutional evils likely to accrue from such a practice, I feel bound to emphasize the injurious local effects on the naso-pharyngeal and laryngeal mucous membrane which are certain to result from frequent application thereto, whether by means of brush, spray, insufflation, or lozenge, of a drug which produces topical anæsthesia by an emptying of the surface capillaries. .

Some remarks which I made of a similar intent in the Section of Laryngology at the International Medical Congress, held at Washington in 1887, were received with general approval by the many eminent specialists who were then present, and I feel confident that this short note will be endorsed by the majority of my co-laryngologists in this country. * , * * *

Catalepsy in Mother and Child.—A case was recently reported in the *Nederlandsch Tijdschrift voor Geneeskunde*, where a pregnant woman became cataleptic, her child suffering from the same affection. The patient was a robust woman, aged 44; she had borne eleven children. In youth she suffered from typhus, and after recovery became subject to fainting fits, but throughout her married life she remained strong and well. There was no history of any neurosis in the family. In the seventh month of her twelfth pregnancy she was seized with cataleptic fits, following the loss of a child. Dr. Schoot, of Leeuwarden, found her stiff and motionless. The forearm could be raised and bent with some force, and remained in the

same position for about ten minutes, then it slowly fell. The lower extremities could be treated in the same manner, with the same effect. Consciousness was lost. The pulse was 64, full and regular; the temperature normal; the respirations natural. The pupils, somewhat dilated, reacted to light. On inhaling chloroform the rigidity of the muscles disappeared, and the patient seemed to sleep calmly for four hours. On awaking from the fit the patient remembered nothing that had taken place while it lasted. The foetal heart sounds, previously audible, were lost, and not heard till fourteen days before labor. No albumen could be found in the urine. The cataleptic fits occurred about three or four times daily, sometimes there was an interval of two days. Atropine gave the patient a week's repose. The fits continued to term, when she was safely delivered of an apparently healthy boy. Not for four days later did the fits recur. On the fifth day an attack occurred while she was suckling; two days later another fit took place, but no more came on, and three months after labor she was quite well. Shortly after the first attack after labor the child, who had been weaned because of that attack, was seized with dysphagia, and could hardly swallow cow's milk. In the evening it had a cataleptic fit. The symptoms were precisely the same as in the mother. The *flexibilitas cerea* of the limbs was marked. The muscles relaxed during a warm bath, but soon afterwards tonic cataleptic convulsions occurred, and the child died after two days' duration of the fits. Dr. Schoot, after due consideration of the differential diagnosis of the case from eclampsia and hystero-epilepsy, came to the conclusion that the fits were cataleptic both in the mother and the child. That they were identical in each case there could be no doubt, but the precise relation of the affection in mother and child remained obscure.—*The British Medical Journal*, May 11, 1889.

EDITORIAL.

TOXIC EFFECT OF ANTIPYRINE.

Dr. Tuckzek reports a case [*in Berliner klinische Wochenschrift*] in which toxic symptoms occurred after the use of antipyrine. A boy of four years with whooping-cough was treated with antipyrine: 0.4 gram at a dose was given three times a day, making 1.2 grams a day. The drug was taken for three weeks with benefit to the cough and without any apparent bad effects. All at once he became sleepless, suffered from jactation and vomited, at first after coughing and then spontaneously. He became sleepy, apathetic, and about eighteen hours after the first unpleasant symptoms he had an epileptic seizure. This was followed by others in rapid succession and for the next thirty-six hours he had about thirty seizures. At this time there was a "peculiar type of breathing, snuffling inspirations with long pauses after the style of the Cheyne-Stokes phenomena." The pulse was slow, of high tension and not quite regular. Temperature in the rectum was subnormal, 36° C. [98° Fah.] The pupils were dilated and reacted to light. The urine, passed in bed, smelled strongly of acetone. Towards evening of the first day a faint eruption resembling scarlatina appeared on the abdomen, cheeks and ears, but this soon disappeared. The urine was acid, with specific gravity 1028, but contained neither albumen nor sugar. It smelled strongly of acetone, and when tested with nitro-prusside of sodium it gave a very intense reaction.*

* This, not very common, test for acetone is made by adding nitro-prusside of sodium and ammonia, or carbonate of ammonia to the suspected fluid. If acetone is present the fluid will gradually become first rose-red, then a more or less dark violet wine-red. The reaction takes place more quickly by shaking in the air or by the addition of a drop of strong acid, but the fluid must still remain alkaline. By heating, the color disappears to return on cooling.

Investigation of the chest and abdomen gave negative results.

There seems to be no reason for suspecting disease of the brain or of any other organ and the conclusion seems irresistible that the trouble was due to the effect of the antipyrine.

The presence of the acetone is an interesting feature of the case. Its source and its effect on the symptoms is not clear.

Dr. Tuckzek has devoted some time to looking over the literature of the subject, and has summarized some of the most interesting of the unpleasant symptoms after taking the drug.

A remarkable peculiarity of the drug is that, as in the present case, it may be well borne for a time, when suddenly unpleasant symptoms show themselves. Sudden collapse is among these unpleasant symptoms. Several cases of sudden death after taking the drug are mentioned, probably due to its action.

Dangerous symptoms are especially frequent in children.

Symptoms of an eruptive nature occur in about ten per centum of the cases.

Nausea, or nausea and vomiting, are not at all uncommon, even after very small doses.

Symptoms due to disturbance of the nervous system stand out prominently. The most common is a feeling of relaxation or weakness. This may pass on to somnolence or apathy, with involuntary passage of the urine. Conditions of excitement may occur, or symptoms of intoxication: anxiety, a frightened feeling, delirium, chilliness, cyanosis, arrhythmia of the heart's action, lack of breath, subnormal temperature, dizziness, headache, ringing in the ears, dilatation of the pupils, and transitory amaurosis make up a long list of more or less alarming symptoms which are common.

It would not be difficult to add to this list of symptoms given by Dr. Tuckzek.

but we will mention only one case which came under the observation of the writer.

A well-known physician in this city, while in his usual good health took five grains of antipyrine as an experiment. Within three minutes, he says, he began to sneeze violently, and sneezed fifty or sixty times within a minute or two. By that time the nasal passages were occluded by the swelling of the mucous membrane and he could sneeze no more. He then began to suffer from dyspnoea, and for a minute or two he was greatly alarmed for fear of suffocation. After a while this passed off, and he had leisure to examine himself. He found the nasal mucous membrane so much swollen that no air could pass through the nose, the posterior wall of the pharynx was fiery red and swollen so as to project beyond the velum of the palate. Five or six hours after taking the drug he called at the office of the writer and related the circumstances. The worst of the symptoms had disappeared, but the nasal passages were obstructed, and the mucous membrane was still quite red. The posterior wall of the pharynx had a spongy look, the swelling was bounded by a sharp line just above the upper border of the tongue. This all disappeared within a few days.

These cases show that antipyrine is unsafe, even when watched, and that the practice by the laity of using it without advice, which appears to be growing, should be severely condemned.

SOCIETY REPORTS.

ILLINOIS STATE MEDICAL SOCIETY.

Thirty-ninth Annual Meeting, Held in Jacksonville, May 21st, 22d and 23d.

FIRST DAY—MORNING SESSION.

The Society was called to order at 10 A.M., by the President, CHARLES WARRINGTON EARLE, M.D., of Chicago.

An address of welcome was delivered by RICHARD YATES, Esquire.

A response was made by DR. N. S. DAVIS, of Chicago.

DR. T. J. PITNER, Chairman of the Committee of Arrangements, made a number of announcements, after which the President called for the report of the committee on revision of the constitution, which was presented by Dr. T. M. McIlvaine, of Peoria, Chairman.

The report was discussed by Drs. Davis of Chicago, Powell of Collinsville, Herriott of Jacksonville, Ingals, Earle and Graham of Chicago, Darrah of Bloomington, Leeds of Lincoln, Ensign of Rutland, Hunt of Dixon, Carter of Waukegan, Barnes of Bloomington, and Matthews of Carlinville. The matter, on motion of Dr. Graham, was referred back to the same committee, with Drs. N. S. Davis of Chicago and F. B. Haller of Vandalia and J. P. Matthews of Carlinville, as additional members.

FIRST DAY—AFTERNOON SESSION.

DR. F. C. ROBINSON, of Wyand, Chairman of the Committee on the Practice of Medicine, made his report in abstract which was followed by a paper on

THE TREATMENT OF PNEUMONIA

by DR. GEORGE N. KREIDER of Springfield.

Dr. Kreider said that during the past few years much had been written about the mortality of pneumonia. Men whose experience has extended over a long period of years affirm that the death-rate is much higher under the present accepted modes of treatment than it was forty years ago. He advanced the following conclusions:

1. Baths should only be given in those cases which are not progressing favorably.

2. In severe cases nothing is better calculated to give so much relief to all bad symptoms.

3. Inflexible rules for selecting cases and administering baths cannot be given. The thermometer is not always a guide for their administration. Difficulty of respiration and lack of secretion should lead

to their employment regardless of the height of the temperature.

4. The bath should be given at a temperature of 100° F., or less, depending on the severity of the case and the condition of the patient. He had not found baths of extremely low temperatures necessary as yet, but should not hesitate to employ them if occasion should require.

5. Stimulants should be given just before entering and in coming out of the bathtub. The patient should not make any exertion himself.

6. The physician should himself superintend and aid in giving the bath. Exception to this rule should only be made when the patient is under the care of trained nurses who are competent to meet emergencies which may arise.

7. The bath treatment is capable of shortening the duration of the disease and of convalescence, and of reducing the mortality. Liebermeister says mortality has been reduced in his hands from twenty-five to ten per centum. The ice coil will be found effective in the milder cases in reducing temperature and relieving pain, if placed directly on the affected side.

DR. J. M. G. CARTER, of Waukegan, said that anything which will tend to equalize the circulation in pneumonia will be beneficial. Whenever a hot or a cold bath, or local application, will accomplish that purpose, it is a good remedy.

In regard to diphtheria, he had been unable to determine its contagiousness. In the treatment he used aconite to reduce temperature; belladonna to control the condition of the throat and to act as an anodyne, because most sore throats occurred in children. He gives them chlorate of potash mixed with sugar. He does not recommend gargles, except where they can be used easily.

DR. J. S. MILLER, of Peoria, had seen but two well-defined cases of diphtheria during the last three or four years. He would refer to one as "masked" diph-

theria, because he treated the case three or four days before he was able to make a diagnosis, and it was only a few hours before the death of the patient that he was able to find out the true condition. The symptoms were those of fever and difficulty in breathing. He was unable to detect any lung trouble. A few hours before death of the child he discovered diphtheritic membrane clinging to the throat. A great deal of attention should be paid to diagnosis in such cases. Relative to treatment, he was of the opinion that time is one of the most important factors. If we can gain time we do more toward guiding the case to a successful issue than by medication, and in order to gain time he favors the supporting plan of treatment. He does not believe in specifics in diphtheria. Iron, quinine, and whisky should be given to prevent the destruction of tissue. One of the valuable local applications is ice. He has discontinued local applications to the throat entirely.

DR. W. M. BARRITT, of Onarga, in the treatment of diphtheria, impresses the system as early as possible with some antiseptic, preferably the biniodide of mercury, it being more diffusible than some other forms. In early childhood where it is not possible to make application locally, he depends mainly upon constitutional treatment. Sulphurous acid, administered internally, gives good results.

DR. J. TOWNSEND, of Springfield, said that tepid applications were very beneficial in reducing the temperature in pneumonia. He had seen numerous instances in which the use of the coil in cases of puerperal fever and typhoid fever proved very beneficial.

DR. W. T. THACKERAY, of Chicago, said that antipyrin reduces temperature rapidly, but the ill effects upon the stomach and the depressing influence upon the nervous system lead physicians to question its value as an antipyretic. He had never known it to maintain an excessively low temperature,

say 96 or 97. He had known the late Dr. Byrd, of Quincy, to use the cold pack with excellent results.

DR. DAVID PRINCE, of Jacksonville, referred to the question of temperature in disease, and said the cold coil is applied to a patient with inflammation of the brain, and relief is afforded; a hot coil is applied, and there is relief. It is evidently not the amount of caloric heat abstracted from the body, but some local influence which is transmitted to some other center which results in the contraction of the vessels in both instances, where a hot or cold coil has been used.

With reference to the treatment of diphtheria, the best success he had ever seen was by the use of a spray of Lugol's solution. He had seen some remarkable recoveries from this spray. In an epidemic he had once used bromine in the same way, supposing it to be a better antiseptic than iodine, but his practice did not bear out the anticipation.

DR. A. J. BAXTER, of Astoria, is in the habit of giving warm baths in pneumonia; also in cases of typhoid fever, alternated with cold, and he finds almost as much benefit from one as the other.

In the use of antifebrin and antipyrin, much depends upon the condition of the system in which they are used. In very nervous patients he is more cautious in administering them than in those of a robust constitution.

DR. L. L. McARTHUR, of Chicago, said that the variety of abscess of the lungs which results from pneumonia is simply of a suppurative character, non-tubercular, and too frequently a diagnosis is not made. In addition to the treatment recommended by Dr. Robinson, it is now considered good practice to open such abscesses of the lungs and drain them as in any other portion of the body.

The papers were further discussed by Drs. E. P. Cook of Mendota, A. F. Lee of Quincy, and S. T. Hurst of Greenview.

DR. A. J. BAXTER, of Astoria, read a paper on

DYSPEPSIA.

DR. N. S. DAVIS, of Chicago, said he knew of a great many conditions of the digestive organs that go under the general designation of dyspepsia; that the only successful method in treating such cases is to analyze each case on its merits, to find out the habits and pathological condition of the digestive organs and rationally adjust the treatment accordingly.

The paper was further discussed by Dr. A. Wetmore of Waterloo.

DR. J. L. WHITE, of Bloomington, read a paper entitled

HYGIENE AND DOCTORS' FEES.

which was discussed by Drs. Kreider, Davis, and G. L. Eyster.

THE PRESIDENT'S address on

THE DUTIES AND RESPONSIBILITIES OF THE MEDICAL PROFESSION REGARDING ALCOHOLIC AND OPIUM INEBRIATION,

was delivered during the evening session. He claimed that alcoholism is not a disease. Ninety-nine out of a hundred drunkards show no symptoms of disease. A man can cure himself of the habit by exercise of the will unaided by medicine, and no disease can be cured that way. No physical cause compels a man to become a slave. Ninety-nine out of a hundred men can reform if they will. It requires a cultivation of the moral sense, a strengthening of the will, a cutting off of all evil associations and all bad habits and total abstinence from the use of liquor. A man should carefully avoid all temptation. It will not do for him to attempt to drink in moderation. It is true that alcoholism may produce changes in every tissue, and bring about all manner of diseases, but it is not a disease itself, and a man who has drank ten, twenty or thirty years may stop as easily as a man who has drank only three months. Dr. Earle claimed that neither the alcoholic nor morphine habit is hereditary, and he quoted figures to prove

it. Idleness and want of government are, he said, more prolific causes of drunkenness. The most marked results of inebriety are not physical, but mental and moral. They are not productive of disease to the extent we are led to believe. Physicians should be temperate for their own sakes, and also to set examples for others. They should be more careful how they prescribe alcohol and morphine. The last is the more seductive, and physicians are responsible for the morphine habit in a majority of cases. It should only be prescribed in perilous cases, and not at all for trivial complaints, as is too common. He advised that the young be educated to avoid the habits; that work be prosecuted among those who earnestly desire reformation, and that legislation be sought for the incorrigible class who cannot be reformed, and for them he recommended state guardianship, and that they be placed for two years in an institution located on a farm.

SECOND DAY—MORNING SESSION.

The report of the Committee on Diseases of Children was made by DR. A. T. DARRAH, of Bloomington.

Under the general term of *summer complaint*, are grouped such diseases as diarrhoea, dysentery, cholera infantum, and enterocolitis. Of the great mortality of children under the age of five years vital statistics show that a large percentage is caused by bowel diseases during the hot weather. This is especially marked in the larger cities of the central and southern parts of the United States.

Heat weakens by destroying the cohesive force between atoms. The result is a relaxed and flabby condition of the tissues. Continuous high temperature, acting upon the very delicate nervous organization of children has the effect of destroying the digestive ferment of the stomach, or of arresting its natural secretion, and then fermentation may take its place. Heat being the prime factor in the causation,

and acting through the sympathetic nervous system, its effects should be counteracted, hence *cold* is the remedy. By reducing the temperature the cause of the disease is removed. We should not wait during warm weather for the little ones to become sick, but prevent it by beginning the use of baths with tepid, or cool or cold water, using it freely, and letting the temperature be suited to each individual case.

DR. A. E. HOADLEY, of Chicago, said that after an experience of twelve years in treating diarrhoea in infants, he could testify to the utility of the treatment advocated by Dr. Darrah. In his practice he teaches families to keep the babies cool. As soon as they begin to feel the effects of heat, their faces red and their head tossing about, crying, etc., instead of giving them extra food of some kind, part of their clothing is removed. If the weather is excessively hot they take off more clothing. The children are then sponged with tepid water, and allowed to lie on the floor naked, during the great heat of the day. Towards evening, when the weather becomes cooler, clothing is put on them. With such treatment the children had little or no diarrhoea, or indigestion, or like trouble during the summer. He is rarely called to see a case of acute diarrhoea in infants during the summer.

DR. ROBINSON, of Wyandot, called attention to the fact that many parents refused children water to drink when they have diarrhoea. He advocates giving them all the water they can possibly drink.

DR. BAXTER and DR. DAVIS also took part in the discussion.

DR. W. T. THACKERAY, of Chicago, presented a report as Chairman of the Committee on Drugs and Medicines.

He said among the most important introductions during the year is that of Professor Pribram, of Berlin—viz., *agaricine*, an alkaloid from white agaric, touch-wood, tinder from the torch tree. This fungus

was originally employed by Andral as a remedy against night-sweats, and has attained some reputation in this direction in Europe. In America, however, the agaric was only used to a limited extent as a purge. It was early discovered that two distinct resins were contained in the fungus, one practically insoluble, and the other soluble in alcohol and chloroform, the product being a yellow crystalline powder and containing what medicinal virtue was possessed by the drug. From this principle Pribram isolated the alkaloid agaricine, and he epitomized his experience with it as follows: It always decreases the sweat; thirst and the excretion of urine are diminished under its use; the functions of the lungs and skin are not interfered with; it gives no after ill-effects.

DR. THACKERAY had found it efficacious in the dose of two milligrammes, in several cases. Others reported, however, that they had used as much as eight milligrammes before the effects were produced.

A paper entitled

NOTES ON THE CAUSES AND MANAGEMENT OF
HERNIA IN INFANTS AND YOUNG CHILDREN.

by DR. K. MILLER, of Lincoln. was read by DR. LEEDS in the absence of the author.

A paper on

VAGINAL HYSTERECTOMY,

by H. T. BYFORD, of Chicago, was read by DR. F. H. MARTIN, in the former's absence.

The death rate of recent vaginal hysterectomies is about ten per centum, while that of some operators is even lower and steadily decreasing. The steps of the operation are as follows:

1. An incision is made through the vaginal wall extending in a circular direction two-thirds the distance around the cervix in front and at the sides.

2. Separation of the parametric tissue from the uterus up to the uterine arteries at the side, and the bladder from the uterus in front until the peritoneum is reached.

3. Completion of the circular incision behind the cervix.

4. Opening the peritoneal cavity posteriorly and anteriorly.

5. Ligation or clamping of broad ligaments, and severing them from the uterus.

6. Tamponment of the vagina with iodoform gauze.

The speaker would favor giving vaginal hysterectomy a trial in all cases of uterine cancer, and particularly in cases discovered early. In view of the diminishing death rate he would perform the same operation for small fibroids, which resisted treatment and showed a tendency to rapid growth, or produce incurable distressing symptoms. Occasionally cases of adenoma uteri, metrorrhagia, displacements, etc., may require the operation, not to cure a fatal disease, but to relieve a life of suffering and invalidism otherwise unavoidable.

DR. C. TRUESDALE, of Rock Island, read a paper on the

ETIOLOGY AND PATHOLOGY OF UTERINE DIS-
PLACEMENTS.

He summarized his remarks as follows:

1. The normal typical position of the uterus in the pelvis in an erect position of the body, instead of being upright, is nearly horizontal.

2. So-called anteversions of the uterus pathologically have no existence.

3. The body of the uterus is supported by the bladder, the bladder upon the vagina, the vagina upon the perineal septum as far back as the rectum, the neck suspended by the utero-sacral ligaments on a plane as high as the body with the empty bladder.

4. All ordinary displacements, such as prolapsus, ante flexion, retroversion, and retroflexion, are produced by contracture of the muscular walls of the vagina.

DR. FRANKLIN H. MARTIN, of Chicago, read a paper in which he reported three cases of fibroid tumors of the uterus operated upon by Apostoli's method, which

illustrated the three different procedures of the method, viz:

1. Intra-uterine galvano-caustic—positive operation.
2. Intra-uterine-galvano-caustic—negative operation; and
3. The intra-vaginal galvano-puncture operation.

He also gave a short summary of results obtained by himself in a series of one hundred consecutive cases, treated by Apostoli's method which were as follows:

1. Of the hæmorrhagic cases, 95 per centum were cured of hæmorrhage.
2. Tumors entirely disappeared in 80 per centum.
3. Tumors were reduced in size in 78 per centum.
4. Tumors not affected in size either from failure of treatment, or from patients discontinuing treatment, or for other reasons, 14 per centum.
5. Neuralgic and other pains relieved in 90 per centum.
6. No deaths.
7. Symptomatic cures, 68 per centum.

DR. L. L. McARTHUR, of Chicago, read a paper on

UTERO-VAGINAL FISTULA AND ITS TREATMENT,
WITH REPORT OF A CASE.

He emphasized some points in the technique of the operation, as follows:

1. Suturing should be in the longitudinal rather than in the transverse diameter of the vagina, because there is less contraction on the stitches and greater facility in introducing them.
2. Choice of material for sutures varies, though silk-worm gut has perhaps the preference, Sims, Bozeman, and Haegar preferring silver wire. Pippingsjold claims excellent results from the use of alternate silver and iron wire, believing that a galvanic current is thus induced which plays an important part in the union. Excellent results are on record with silk as the suture.

3. Simon, perhaps, did more than any other operator, to simplify the treatment. He demonstrated that it was neither necessary to retain a catheter in the bladder after operation, nor to maintain the reclining posture. He permits his patients to rise as soon as they feel disposed, simply requiring them to empty the bladder at least every two hours.

4. It is advantageous to render the urine antiseptic by some such agent as saccharine, benzoic acid, or boracic acid internally.

5. If the first operation succeeds in locating the orifice of the fistula on the mucous surface of the bladder, that constitutes one step in some methods; then, at a later sitting, closing the bladder-opening may be effected.

6. Any colored liquid may be used to differentiate the fistula, as those above mentioned.

7. It is not necessary to put off the cure until the age of puberty is reached.

8. The orifice of the fistula should be encircled with about one-quarter inch of mucous membrane. This serves to retain the ureter in the bladder and prevents, by a valve-like action, the escape of urine through the wound.

9. It is to be inferred that the sphincter vesicæ, in a congenital case, has never been trained to its proper function and may need attention in the line of internal medication.

SECOND DAY—AFTERNOON SESSION.

DR. O. B. WILL, of Peoria, chairman, presented the report of the Committee on Obstetrics.

He said with respect to the use of anæsthetics, ergot, and the forceps, in facilitating labor and lessening suffering, there has always been, at least, some diversity of opinion. Where, however, the pains are severe it is not now considered necessary to permit a woman to suffer and become nervous and excited over the so-called "nagging" pains of the first stage of

labor, any more than those of later and severer type. On the contrary, it is not considered a mere matter of choice, but of justice and necessity. Until comparatively recent years, chloroform has generally been considered the best anæsthetic. In the estimation of the writer, the so-called *A. C. E. mixture* of alcohol, chloroform, and ether in the ratio of one, two, and three parts, seems to leave little to be desired. The next popular agent is hydrate of chloral. Its use is preferred by many to chloroform during the last expulsive pains of labor. "Wisdom, says Dr. Peak, "should teach us that chloroform should be used in all cases of labor where not contra-indicated by,

- "1. Organic diseases in the brain ;
- "2. Destructive lesions in the lungs ;
- "3. Fatty degeneration of the heart ;
- "4. Extreme general anæmia."

The report closed with the following suggestions :

(a) When the proper time arrives the head should be kept in constant contact with the perineum in the intervals of pain, with the hand or the forceps, as the case may be.

(b) The condition of the parts should be always known.

(c) Whenever possible, the head should pass the outlet during the intervals between pains.

DR. A. F. ROONEY, of Quincy, contributed a paper entitled

THE USE OF THE CURETTE IN PUERPERAL ENDOMETRITIS.

Whenever there is fever or pain or fetor which points to this cause, the quickest and the surest way to abort the trouble is to carefully remove, with a dull curette, every easily-detachable fragment. There need be no violence, and there should be no fear of consequences.

Dr. Rooney finds it more convenient to take advantage of Sim's position to steady the cervix with a tenaculum, to bend the curette to that curve which allows it to

pass the os internum most readily and find the irregular surfaces, and by this means roll out any tissue-fragments, or dark clots that may be enclosed, for sometimes the cervix contracts down quite firmly, and the uterus, especially in miscarriages, appears flexed either forward or backward. After curetting, Dr. Rooney applies iodized phenol upon a cotton wrapped applicator, regarding it as a valuable antiseptic and styptic. A Vienna physician had reported two hundred cases in which he had curetted for puerperal endometritis with no deaths.

DR. C. C. HUNT, of Dixon, read a paper entitled

CARBOLIC ACID, PURE OR IN CONCENTRATED SOLUTION, AS A DISINFECTANT IN THE TREATMENT OF PUERPERAL SEPTICEMIA,

in which he said the following cardinal points are now generally admitted :

1. Puerperal septicæmia is of bacterial origin.
2. It is identical with surgical fever, but under exaggerated conditions.
3. It is preëminently infectious.
4. It is preventable.

During the spring of 1888 he had seen a great many interesting cases.

His clinical experience with undiluted or very strong solutions of carbolic acid tended to establish :

1. That it is not attended with danger.
2. That if applied early the temperature is immediately reduced.
3. That it is efficient as a disinfectant ; no micro-organisms or spores can exist or develop where it touches.

4. That to apply it effectually and safely we must be guided by the sense of sight as well as that of touch.

SECOND DAY—EVENING SESSION.

DR. R. H. ENGERT, of Chicago, read a paper on the

RELATION OF UTERINE FIBRO-MYOMA TO THE ORGANIZATION OF THROMBI,

in which was advanced the opinion that a

fibroid is nothing more or less than an organized giant thrombus.

To substantiate this hypothesis, quotations were made from some of the latest researches in regard to the organization of thrombi. Welch, of Baltimore, writes: "In a thrombus of five minutes existence, blood corpuscles were found in a state of degeneration. Leucocytes were already visible, although sparingly. Half an hour later they increased considerably in number. Fibrin appeared in from five to thirty minutes in the form of strips and islets between the blood corpuscles and on the surface of the blood coagula. Gradually it formed a net-work, and twenty-four hours from the beginning of the process a great part of the thrombus consisted of fibrin. Leucocytes seemed to wander about in the coagula and the fibrin seemed to increase in proportion to the increase of these."

Heuknig holds that the "first process in the organization of a thrombus is the conversion of the blood into a fine granular mass, this being hyaline and striated. Canalization takes place from the line of demarkation on the border of the vessel wall, proliferation of the endothelium begins, and gradually covers that part of the thrombus which does not adhere to the surrounding wall. Underneath this cover a layer of connective tissue develops. The endothelium begins to grow into the thrombus and capillaries are formed. Another set of capillaries develops from the vasa vasorum of the vessel in that particular thrombus which adheres to the vessel-wall. Gradually the connective tissue increases while the thrombus decreases."

Dr. Engert then reported some cases tending to substantiate the previously advanced statements.

DR. N. S. DAVIS presented a report on "Meteorological Conditions and their Relation to the Prevalence of Acute Diseases."

DR. D. R. BROWER, of Chicago, followed with some remarks on the subject of

"Writer's Cramp," and exhibited an appliance devised by Nussbaum.

THIRD DAY—MORNING SESSION.

DR. EDMUND ANDREWS, of Chicago, made a report of the results of

ONE HUNDRED OPERATIONS FOR STONE IN THE BLADDER.

He said the object of the paper is to compare the safety of litholopaxy with that of lithotripsy and of lithotomy in his own practice. He had operated for stone over one hundred times, employing all the different methods in vogue.

The following is a summary of results: Litholopaxy (Bigelow's Operation), forty cases, one death; mortality, two and a half per centum. Lithotripsy (after Sir Henry Thompson's method), six cases, one death; mortality, seventeen per centum. Lithotomy below age of puberty, fifty-five cases, seven deaths; mortality, thirteen per centum. Lithotomy above age of puberty, twenty-nine cases, five deaths; mortality, seventeen per centum.

His experience in the old form of lithotripsy of one death in six operations is substantially like that of other surgeons. Litholopaxy can generally be performed only in adults. Statistics of adult lithotomy over the whole globe, amounting to some four thousand cases, indicate an average mortality of from twelve to eighteen per centum, while litholopaxy in Chicago—at least in his practice—forty cases had a death-rate of only two and one-half per centum. The most remarkable successes claimed for lithotomy come from the warmer regions of Asia, where calculi seem to be very abundant.

The following are gathered from authentic sources: Baboo Ram Norain Das Bahadore, of India, cases, 248; deaths 17; mortality, 7 per centum. Dr. Kerr, American Hospital, China, cases, 187; deaths, 19; mortality, 10 per centum. Dr. Nishman Altoungan, Amasia, Asia Minor (educated at the American Mission), cases, 265; deaths,

5; mortality, 2 per centum. Dr. Sewny, of Livias, Asia Minor, cases, 40; deaths, 1; mortality, $2\frac{1}{2}$ per centum. Total number of cases, 740; deaths, 42; mortality, 6 per centum.

DR. A. E. HOADLEY, of Chicago, read a paper on

TUBERCULAR JOINT-DISEASE.

He said this is by far the most common joint-affection in early life. Tuberculous inflammations of joints are characterized by the rapidity with which they run their course. Three or four weeks is sufficient time for tubercular inflammation, if complicated with staphylococcus, to completely destroy all the elements of a joint. synovial membrane, ligaments, cartilage and bones, rendering the entire joint a structureless mass which communicates with the outside by several openings. The disease may have its starting point in the epiphyseal cartilage or in the synovial membrane, and in the bones themselves, but never in the articular cartilage or the articular ligaments. Both the latter are readily destroyed by infection. In seventy-seven per centum of all cases, whether rapid or slow, the affection remains local, in the remainder the tuberculosis becomes general.

He emphasized the fact that early, thorough, and repeated aseptic operations is the treatment for this class of cases. There is at the present time but one fixed rule in regard to the kind of operation to be performed, and that is to remove all the diseased tissue in whatever structure it may exist and sacrifice nothing,—that is, remove any healthy tissue, bone especially, that is unquestionably in the way and liable by its presence to interfere with obtaining the best results. Excision of joints in these cases, as a rule, is objectionable, because of the unnecessary amount of healthy bone removed; complete enucleation of the synovial membrane together with such diseased portions of bone as

may exist gives the best results. The operation should be repeated as often as it becomes evident that the disease is still in progress.

DR. H. M. STARKEY, of Chicago, Chairman, made the report of the Committee on Ophthalmology and Otology.

He directed attention to the advisability of having the eyes examined in every case of persistent headache not relieved by the ordinary medical means, even when the eyes are not obviously at fault.

DR. GALEZOWSKI called attention to the close relation between some eye-troubles and irritation of the upper teeth.

The only new drug that seems to have met with any special favor is the antiseptic creolin.

DR. ISADORE BERMAN recommends the use of lactic acid in from ten to thirty per centum solutions for cases of chronic suppurative otitis that have resisted other treatment.

DR. LYMAN WARE, of Chicago, read a paper on

SYPHILITIC CYCLITIS,

and reported several cases. He offered the following suggestions:

1. Greater care in the diagnosis of primary symptoms. However difficult it may be to diagnosticate primary or secondary syphilis, it is generally far more difficult to diagnosticate tertiary. It is much too common for a physician to say to his patient: "I do not think you have syphilis, but yet a little constitutional treatment will do no harm."

2. Mercury is unquestionably best in the primary and secondary stages, while potash in large doses is the remedy in the tertiary stage.

3. Large doses of potash can only be tolerated when given in gradually increasing doses, preferably after meals, in much water; the freer the perspiration, the larger the doses of potash.

OFFICERS ELECTED FOR THE ENSUING YEAR
ARE :

President—Dr. John Wright, of Clinton.

First-Vice-President—Dr. J. P. Mathews, of Collinsville.

Second-Vice-President—Dr. T. M. Cullimore, of Jacksonville.

Permanent Secretary—Dr. D. W. Graham, of Chicago.

Assistant Secretary—Dr. L. Ware, of Chicago.

Treasurer—Dr. T. M. McIlvaine, of Peoria.

The next meeting of the Society will be in Chicago on the third Tuesday in May, 1890.

THE GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

Stated Meeting, March 12, 1889.

DR. T. A. ASHBY read an article entitled

THE ANIMAL SUTURE IN INTRA-VAGINAL PLASTIC SURGERY,

the essential points of which are given herewith.

The evolution of intra-vaginal plastic surgery from the domain of a crude and unskillful procedure to a plane of high art and dextrous manipulation is due to the establishment of two principles—the principle of the speculum and the principle of the metallic suture, both elaborated by the genius of Marion Sims.

The principle of the metallic suture, which solved for the speculum the important idea of its vast utility in plastic vaginal surgery, was evolved by the genius of Sims as a necessary complement to the idea of successful exploration. His genius recognized in silver the necessary metal, and without knowledge of precedent in this direction he made successful application of his discovery. Plastic vaginal surgery at once became in the hands of Sims an assured fact, and its evolution has been the natural development of the idea originated by this re-

markable man. The metallic suture had been used prior to the time of Sims by old Dr. Mettauer, of Virginia, who is credited with having used the iron wire suture as far back as 1830.

Silver wire possesses many advantages for plastic surgery. It has as a suture one disadvantage, but this is so striking that it is a barrier which must forever impair its otherwise striking advantages. The silver wire is non-absorbable and must, therefore, in every instance be removed when employed in plastic work. The wire suture exercises a cutting force and is easily imbedded by the swollen and inflamed tissues. Its removal must often be undertaken under difficulties.

In plastic vaginal work the mechanical presence of the wire is annoying to the patient and its removal is attended with greater or less pain.

For two years past he has almost entirely discarded the silver wire suture in operating upon the cervix and perineum, and with a growing experience is inclined to throw it overboard altogether. He was at first distrustful of the animal suture and alternated each suture with silver thread; he next used the animal suture all along the line of incision, save at the points of greatest tension, where he used the wire. Latterly he has trusted the animal suture altogether in many cases and finds the results far more satisfactory than he had dared hope. In no case has he failed to get good union, and in the majority of instances the line of union has been simply perfect. This has been especially true in operations upon the cervix.

In the double operation of trachelorrhaphy and perineorrhaphy, he performed the operation first named and then after a month or six weeks' interval closed the perineum. Within the past two or three years he has been able to abandon this plan and he now invariably does both operations during the same anæsthesia. The use of the animal suture first en-

couraged this plan. After closing the cervix with cat-gut the perineum is closed with the same material. The patient is placed in bed and kept upon her back for a week or ten days. At the end of this time repair has taken place, the suture is absorbed or dissolved, suture points closed and nothing further is required beyond a few days' convalescence. After all inflammatory swelling and soreness have disappeared the case is dismissed with the simple injunction to use the hot vaginal douche for several weeks.

To illustrate the advantages of the animal suture he selected from a number of cases brief histories of three cases illustrating the different procedures in which the suture was used.

TRACHELORRHAPHY.

CASE I. Mrs. D., aged 28, bilateral laceration of cervix of over four years standing. Lips somewhat hypertrophied, widely gaping and edges eroded. Mucous membrane secreting profuse muco-purulent discharge, constant pains in pelvis and back, nervous depression and general lowering of health.

The operation clearly indicated. Under chloroform anæsthesia, the lips of the wound were carefully pared, and closed with No. IV. carbolized cat-gut suture, manufactured by the Lister Manufacturing Company. Patient was placed in bed and at end of 7th day union was found complete, sutures absorbed and patient in comfortable condition in every way. On the 10th day the patient was up and going around her room. Her subsequent condition was entirely satisfactory.

TRACHELORRHAPHY AND PERINEORRHAPHY.

CASE II. Mrs. H., aged 30, married, cervix badly lacerated on left side as high up as vaginal junction, lips of wound somewhat everted and hypertrophied, edges rough, granular, profusely secreting mucus and pus; patient bed-ridden since confinement nine months previous, general

health greatly depreciated and nervous system broken down.

Perineum torn back to rectal septum during previous labors. The anterior and posterior vaginal walls relaxed and projecting through vulvar opening when in the erect position or during straining from coughing or vomiting. Pelvic circulation disturbed and sluggish, the vaginal tissues having a dark venous hue. The indications for the operation were as pronounced as one could find; under chloroform anæsthesia, the cervix was repaired with carbolized cat-gut suture, sizes No. I and No. IV being used. The perineum was next denuded and closed with the same suture: at the end of eight days union was complete along the entire perineal line of suture; no attempt was made to ascertain condition of cervix at this time. Hot water injections were employed twice daily after 5th day. Upon examination of cervix on 14th day union was found satisfactory. The suture had disappeared by disintegration, only filaments being found in the vagina. The subsequent progress of the case has been good, the patient being able to resume her domestic duties and continues to improve in health.

RUPTURE OF PERINEUM THROUGH RECTAL SEPTUM.

CASE III. Mrs. McC., aged between 30 and 35 years, married, gave birth to second child with great difficulty; infant 5 months old at time of operation. Physician in attendance at time of delivery failed to repair the tear, which extended $1\frac{1}{2}$ inches up the rectal septum and through entire perineum. The condition of patient soon become extremely distressing. She had lost all control of her lower bowel and was being daily reduced by diarrhoeal discharges. I was invited to see the patient in consultation and then requested to operate.

Under chloroform anæsthesia the parts were carefully denuded and then closed with carbolized cat-gut, sizes Nos. I and

IV being used. The line of union was found complete at end of 8th day, with single exception of one point at upper and inner edges of the vaginal wound where slight sloughing occurred. A small opening not larger than a quill remained unclosed. After evacuation of bowels and use of hot water for several days, closure at this point took place. Subsequent results have been satisfactory, the patient having been restored to health and comfort and to usefulness in her family.

Claim is made for the superior excellence of the animal suture upon two points: First, it is non-irritating; second, it is self-removable. If it can be shown to have all the other good qualities of the silver wire and those additional advantages it becomes *par excellence* the suture for plastic work. The procedure necessary for the removal of the silver suture after operations within the vagina or upon the perineum is in many cases almost as troublesome as that required for placing them. There are few patients who do not complain bitterly of the pain induced by the attempt to remove the suture, and many will not assent to its removal without an anæsthetic. Many patients as they lie in bed and think over the pain and distress attending the removal of the wire suture, anticipate this work upon the part of the operator with holy horror. He has had more complaints from patients from this source than from the dread of the primary operation.

In simple perineal operations the wire suture is disagreeable and often painful from its mechanical presence during the entire time it remains *in situ*. Its removal is always attended with pain unless an anæsthetic is employed. Local anæsthesia with cocaine has not been sufficient in his experience to overcome this pain. Silver wire does not yield to pressure to the same extent as the animal or silk suture, and changes in the positions of the body are much interfered with in consequence,

when it is used. This is to some extent an objectionable feature. The greater the amount of motion allowed a patient within certain limits, the greater the comfort of the horizontal position. After using the cat-gut suture, he ties the patient's limbs together and allows her to roll from side to side at will. This lateral roll works no disadvantage and occasions no discomfort; it is a positive gain.

The following are the objections urged against the cat-gut or animal suture.

First. It is claimed that it is less easily adjusted than silver wire, that the edges of the flaps approximate with less neatness and ease of manipulation, that the knot is liable to slip or loosen in attempts to tie. These defects are admitted, but they can be entirely overcome with care and painstaking work. He has no difficulty in bringing the flaps in proper apposition or in holding them there until the suture is carefully tied or buttoned. This may be done by using a vulcellum forceps, a tenaculum or a temporary wire suture. The knot will not slip or untie if it is looped properly. He uses the surgeon's loop and makes three ties. The ends of the suture are left from $1\frac{1}{2}$ to 2 inches long. To prevent the knots from untying, he covers the suture and wound with iodoform, which, in addition to its healing and antiseptic properties, dries the suture and securely holds the knot.

Second. It has been claimed that the cat-gut suture is not strong enough for cervical and perineal operations, and that it disintegrated before primary union could take place. His experience disproves this assertion. He finds the suture is sufficiently strong for this work if it is carefully selected and tested before being used. The best results will be secured by using sutures of different sizes. He varies the size according to the amount of tension or strain imposed on the suture. In very fine plastic work a very fine suture should be used and *vice versa*. A properly pre-

pared cat-gut suture will hold *in situ* from 4 to 14 days. Primary union will take place within 48 to 72 hours in the majority of cases of cervical and perineal operations, so that the self-removable suture will prove sufficient for these procedures.

In conclusion he offered the following summary:

1st. The cat-gut suture properly prepared and selected will be found sufficiently strong and durable for operations upon the cervix and perineum in the vast majority of cases.

2d. With careful manipulation it can be placed *in situ* with sufficient neatness and fitness to secure perfect union of the denuded surfaces by primary intention.

3d. It is self-removable, and therefore does away with the necessity of further interference after union has been secured.

4th. It gives no distress while union is in progress.

5th. It makes the operation of trachelorrhaphy and perineorrhaphy during the same anæsthesia a very simple procedure.

DISCUSSION.

DR. W. E. MOSLEY had tried various forms of sutures and his conclusions were as follows: Taking cervix operations as a whole, the metallic was far preferable to the animal suture. The only class of cases where the animal suture was permissible was when the lips were thin and easily brought together. When any amount of cicatricial tissue had to be removed animal sutures could not be depended upon, as the tension hastened absorption, and even before any absorption had taken place they would stretch, so letting the denuded surface separate. In this respect silk-worm gut differs from the animal suture used. The edges of the denuded surface can be more perfectly adapted to each other with the metallic suture and the degree of tension more exactly estimated. He did not approve of tying animal sutures when used in cervix

operations but thought they should be shotted, as by this means less traction on the ligaments is necessary, and the tension of the suture more readily regulated. Another advantage the metallic suture has is that it draws the denuded surfaces more smoothly into apposition while all animal sutures act like a draw string at the mouth of a purse.

In operations upon the anterior and posterior walls of the vagina, cat-gut sutures are often very serviceable and much more comfortable for the patient. In fistulæ, the supporting, splint-like action of the metallic suture is often an advantage. In Dudley's perineum operation the suture is continuous and an animal tissue must be used. In Emmett's operation, although animal sutures give good results, the central suture forming the fourchette had better be of metal.

Of the animal sutures, cat-gut is the most universally applicable, and that which has been chromicized and then kept in Juniper oil the most reliable. Silk-worm gut is stiff and has a thin cutting edge, and unless pretty thoroughly softened in hot water is liable to split when being tied.

Of the metallic sutures, pure carefully annealed silver wire is best.

In conclusion, he would not use animal sutures where there was much tension or when an exact coaptation of the denuded surfaces was necessary, as he believed silver wire would answer the purpose much better. If animal sutures were used in cervix operations, they should be shotted and not tied. In operations upon the vaginal wall, near the vulva, they can be readily tied.

DR. H. P. C. WILSON said that he had always been so perfectly satisfied with his results with wire that he did not care to try new and unaccustomed materials. Seldom heard complaints on removal, and never gave an anæsthetic for this trivial operation.

DR. T. A. ASHEY said, in closing, that he began practice with a prejudice in favor of the metallic suture, but experience had taught him to prefer cat-gut. Within the last year he had used the wire in the cervix but twice. He admits that wire is sometimes the best in these operations, but not often, reviewed the remarks and explained just when wire might be best. The cat-gut should be tested thoroughly before introduction. When the cervix is high in vagina, he ties with catch forceps. Appearance of wound is not so nice as with wire, but result is as good.

DR. CHARLES O'DONOVAN, JR., then read an article entitled

IMPACTED RETROVERSION OF THE GRAVID
UTERUS, WITH A CASE.

The following summary presents the salient points.

On August 12th, 1888, I was called hurriedly to see Mrs. F., aged 35, white, of Irish parentage, the mother of six children. I found her pale and thin, with an anxious countenance, looking so exhausted and exsanguine that I thought at first, for I had never seen her before, that I had a case of hæmorrhage of some kind to deal with. She told me that her family physician had been treating her during the past ten days for violent pelvic pains, that had been recurring now and again at irregular intervals during that time; these had gradually become less and less frequent, and were now altogether absent; but during the last three days a tumor had developed in her abdomen, and had grown rapidly, in spite of all that her physician could do.

In answer to my inquiries, I learned that she had missed three periods, but did not believe herself pregnant, though subsequently she proved to be so; she had had a slight flow six weeks ago, subsequent to over-exertion, but this passed off after a few hours, and she had paid very little attention to the occurrence. About a week ago she began to have pains in her pelvis,

and lower abdomen, which seemed to be caused by some trouble situated in or about the bladder, for, as the pains became more violent, she noticed that a greater effort was required for micturition, and that each time fewer and fewer drops of urine could be expelled; four days ago she failed to urinate, notwithstanding the most violent efforts, accompanied by excruciating pains, and she had not since passed more than a few drops from her bladder. During this time she suffered intensely, but to-day she felt easier. Her bowels had acted fairly well, though she was somewhat constipated. Inspection of the abdomen revealed a tumor, reaching from the symphysis pubis to within two inches of the umbilicus, rising prominent from the belly, and bulging forward, even while she lay on her back. It presented a hard, elastic feeling, when touched, and gave a perfect wave of fluctuation, even when tapped as delicately as possible, rendering it certain that I had to deal with a tense cyst of some sort. As the woman was quite frail, and the abdominal walls were very thin, by causing her to flex her thighs on her body, thus relaxing completely the abdominal muscles, I could push my fingers around the tumor at the sides and above, clearly defining its globular mass. I next attempted to introduce my finger into her vagina, but encountered unexpected resistance; the vagina was almost obliterated by a tumor, occupying Douglas' cul-de-sac, which was large enough to fill the entire pelvis so completely that I could make out nothing more than I could feel by the vagina, except that the overcrowded condition of the pelvis was shown more clearly. Though I doubted her report about passing no urine for four days, she may have told the truth, as the weather was quite hot and her skin was acting freely; however I did not allow many minutes to pass before I had introduced a long rubber catheter into her bladder, through which slowly

flowed more than two quarts of very dark urine, having a strong ammoniacal odor; during this process the abdominal tumor gradually collapsed, and she complained of a good deal of pain, though she felt much relieved at its completion. Having removed this obstruction, I expected to make a satisfactory vaginal examination, but was disappointed when I found matters very little improved; the only advance that I could make was that by bi-manual examination I could satisfy myself that the uterus was retroverted, but whether the mass in Douglas' cul-de-sac was the fundus alone, or the fundus dragged back by a fibroid, or the pregnant uterus, I could not distinguish. So, after ordering deserts-poonful doses of Castor oil, to be given at intervals of four hours, until her bowels had been freely moved, I left her resting quietly.

When I visited her the next day, I found that the oil had acted nicely, giving her several movements containing many hard lumps of fecal matter, but she had passed no urine since I had seen her, so I again used the catheter, before examining her by the vagina. The condition of her pelvis had changed somewhat since the day before, the evacuation of her rectum having released the uterus so that it could be moved easily without pain, but I could not push the enlarged fundus through the ligaments into its proper position; after each effort it would fall back into the recto-vaginal pouch from which it had been lifted; it seemed to be about as large as a good sized orange, but contained no fibroids that I could distinguish. I instructed her sister in the use of the catheter, which she readily learned, and ordered that it be used twice a day, if she failed to relieve herself; also that she should use the hot vaginal douche each night and should keep her bowels moving regularly with Castor oil, and that half a gallon of warm water be injected into her bowel each night and morning: as she was very

pale and anæmic, I directed Blancard's pills, one after each meal. After this I saw her every two or three days, finding her better each day, though compelled to use the catheter regularly, until September 1st, ten days after my first visit, when she told me that she found herself able that morning to pass her water without difficulty, and felt relieved also of a feeling of discomfort and weight in the pelvis. Upon examining her, I was surprised to find that the uterus had risen spontaneously out of the pelvis, and could be felt above the symphysis; the os remained rather high in the pelvis, but was easily reached, having a deep bilateral laceration. Her other pelvic organs seemed perfectly healthy.

The interest in this case arises from two points:

1st. The diagnosis of the nature of the tumor, and

2nd. The spontaneous return of the uterus to its proper position after two repeated failures of efforts made to replace it by the finger.

That this retroverted gravid uterus, after resisting efforts at reposition, as strong as I dared make them, for the dread that I might be dealing with such a condition was always present notwithstanding her assurance that she could not believe herself pregnant, should rise above the obstructing ligaments spontaneously after a few days of such simple treatment as rest in bed and vaginal and rectal injections of warm water twice daily, is a matter that merits consideration. I had attempted to replace it while she lay on her back, but failed; I tried next while she was in the genu-pectoral position, giving full time for the forward displacement of all the abdominal and pelvic viscera, and admitting atmospheric pressure by retracting the perineum; this alone having failed to push the uterus into its proper place, I assisted rather forcibly with two fingers in the vagina, and after the failure of this method, while the woman retained the

same position, I tried unsuccessfully to accomplish my purpose by inserting my finger into the rectum hoping to gain a longer leverage. This occurrence, however, fully demonstrates the utility of warm injections, particularly into the rectum, for to that influence more than any other I am inclined to ascribe the favorable termination of the case, by bringing about relaxation of the ligaments that presented but a few days before an impassable barrier.

THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS.

Second Annual Meeting held in St. Louis, Missouri, May 2nd and 3rd.

FIRST DAY—MORNING SESSION.

The Association was called to order by the President, Dr. J. W. Jackson, of Kansas City, at 10:30 A. M.

An address of welcome on behalf of the local profession was delivered by Dr. E. L. Gregory. He said the advance in modern surgery comes to wipe away the shame of mutilation, once so humiliating in railroad injuries. The discovery of the causes of inflammation, and the methods of prevention have revolutionized medical science. Amputation, once the rule, is now the exception. Life in a limb is now a guarantee of its preservation.

Dr. J. B. MURDOCH, of Pittsburgh, Pa., contributed a paper entitled

TORSION OF ARTERIES FOR THE ARREST OF HEMORRHAGE,

which appears in another part of this journal.

Dr. S. D. ROBBINS, of Vicksburg, Mississippi, asked whether torsion could be resorted to in an artery so important as the femoral instead of ligation, with equally as good results.

Dr. MURDOCH replied in the affirmative; he had applied torsion in the case of the femoral artery ninety-five times with success.

Dr. GOODE, of Birmingham, Alabama, would not abandon the ligature entirely for torsion, but would rely on torsion in certain cases.

Dr. P. FRENCH, of Mexico, Mississippi, had seen Bryant use torsion, and in order that the members might have a correct understanding as to the number of twists or turns that he makes, he would say that Bryant recommends making turns until the surgeon feels a want of resistance in the vessels.

Dr. W. A. McCANDLES, of St. Louis, held that the pedicle of tumors and the cat-gut ligature become living tissue.

Dr. S. S. THORN, of Toledo, Ohio, challenged the statement made by Dr. McCandles. He believes that they were absorbed, and that we have evidence of this in operations where the ligature is used in closing surface wounds.

Dr. G. J. NORTHROP, of Marquette, Michigan, that, in closing the discussion Dr. Murdoch state in what cases he would apply torsion, and in what cases he would select the ligature.

Dr. R. HARVEY REED, of Mansfield, Ohio, said the question of what becomes of a ligature in ligating vessels had been pretty thoroughly demonstrated by experimentation. Dr. Senn, of Milwaukee, Wisconsin, had demonstrated that it was absorbed in experimenting on animals. The silk ligature, however, becomes encysted in from twenty to thirty days after the animal is killed. He had himself demonstrated this by experimentation. In the use of the cat-gut suture in abdominal surgery, unless the closure of the wound is rapid, the cat-gut becomes absorbed. He had never known the silk ligature to become absorbed and fail to do its duty.

With all due deference to Dr. Murdoch, he was a little afraid of torsion. He had experienced little or no difficulty with antiseptic silk sutures.

Dr. NYE, of Pennsylvania, asked whether Dr. Murdoch had an opportunity of exam-

ining an artery, several days after he had applied torsion, to know its condition.

DR. J. H. MURPHY, of St. Paul, would hereafter try torsion, and after he did that he would apply a silk ligature as a means of further safety.

DR. MURDOCH, in closing the discussion, said it matters not whether torsion or ligation be resorted to, the principle is the same. With regard to the twisting of arteries, he finds that it requires four or five, or possibly more, revolutions of the forceps to make the necessary resistance. The surgeon knows that where a ligature is applied to an artery, whether it be silk, or cat-gut, it ruptures the internal and middle coats. It is the external coat that resists the ligature. There is retraction and contraction of the inner and middle coats, and a clot is formed, and it is the final organization of this clot that arrests the hæmorrhage.

His reasons for preferring torsion to ligation, either silk or cat-gut, are

1. On account of the greater facility with which it can be applied.
2. If the surgeon uses cat-gut the knot will untwist; it becomes softened before the clot is organized, and in that case secondary hæmorrhage is likely to occur.
3. With the experience of both in Guy's Hospital, London, and the Western Pennsylvania Hospital, it is safer.

FIRST DAY—AFTERNOON SESSION.

The Association re-assembled at 2 P. M., with President Jackson in the chair.

First-Vice-President Murphy was called to the chair, and President Jackson delivered his address, taking for his text

THE RAILWAY HOSPITAL SYSTEM OF THE MISSISSIPPI VALLEY.

The address was practically a history of the railway hospital movement, which, according to the speaker's data, originated in the West. The first consideration he had given to the subject of the establishment of a railroad hospital service was in 1867, during his incumbency of the office

of local surgeon of the Missouri Pacific, at Kansas City. But there his surroundings forbade making such an attempt, although he did make the effort in 1872, as chief surgeon of the Atlantic and Pacific Railway Company in a territory extending from Pacific, Mo., to Vinita, I. T., and from St. Louis to Atchison, Kan. His first equipment was crude, and the success of the plan limited, owing to the lack of proper facilities for competent instant attention to persons injured on railroads, as well as for want of subsequent attendance and nursing. It was in the summer of 1879 that Dr. Jackson persuaded Superintendent Talmage, of the Wabash railroad, to make an attempt to establish a railroad hospital service on the assessment plan, which to-day has the almost universal indorsement of not only railway employes, but of the public at large.

The President's address was fully discussed: arguments were advanced for and against the establishment of such union hospitals.

A copy of the address was ordered to be sent to every railroad manager throughout the country.

The following resolution, offered by Dr. John E. Owens, of Chicago, was adopted without debate:

WHEREAS, During the past few years there have been organized in different parts of the United States several chartered corporations styling themselves, "The National Benefit Association," "The Mutual Aid Hospital Association," "The Sanitarium," and the like, offering, for small considerations, \$6 to \$10 annually, to issue certificates to members agreeing to furnish, in the event of sickness or accident, board, lodging, medicine, nursing, medical and surgical attendance; and

WHEREAS, Contracts have been made, and are being made, with the hospitals in towns and cities throughout the United States to furnish divers persons, holding the certificates of such associations, board, lodging, nursing, medical and surgical attendance, all necessary surgical instruments and medicines of the best quality,

under such regulations as the said association shall from time to time prescribe, for the compensation of \$1 per day in wards or \$10 per week in private rooms; and

WHEREAS, We have already sufficient abuse of charity without permitting the development of another enterprise which thrives at the expense of hospital physicians and surgeons, who, per force of contracts made by said associations on the one hand and by the hospitals on the other, must turn out at all hours of the night, without compensation, to further the interests of the "one man" institution for whose pecuniary benefit the scheme is devised;

Resolved, That the members of the National Association of Railway Surgeons resent this new imposition upon the staffs of the various hospitals; that they acquaint the hospital authorities with the injustice of the scheme, and urge them to refuse such contracts as oblige their fellow-laborers in true charity to render professional services to the above-named benefit associations without compensation.

DR. W. B. OUTTEN, of St. Louis, read a paper entitled

A PLEA FOR MORE DETAIL IN THE TREATMENT
OF RAILWAY INJURIES.

DR. T. E. RUSSELL, of Springfield, Ohio, read a paper on

RAILWAY SURGERY,

in which he advocated primary amputation. He said in severe injuries to the arm near the shoulder, requiring amputation, it often happens that the lesion is so near the articulation that it is next to impossible to secure a good flap by any methods laid down in text-books. A convenient and proper way, if the sound tissues favored the scheme, is to make the first incision in the course of the humerus, splitting the deltoid muscle and going directly to the shoulder joint. A strong bistoury is introduced below and a little in front of the acromion process and a longitudinal cut is made in the course of the limb to a point an inch and a half below the surgical neck of the humerus. At the middle of this incision the scalpel is placed in the wound, and carried obliquely downward

in front and behind, making two lateral flaps, as it were. These lateral cuts should not be deep enough in front or towards the axilla to sever the arteries, but to make space for disarticulating the head of the humerus from the glenoid cavity. The remainder of the amputation is completed by returning to the lateral or oblique incisions—to the posterior first—and cutting each away until the arm is severed. The flaps can easily be adjusted, and the result is usually satisfactory, if the healing processes meet with no mishaps.

Photographs of the cases on which Dr. Russell had thus operated, were exhibited, showing the results.

DR. H. H. MIDDLECAMP, of Warrenton, Missouri, advocated primary amputation where there was no possible chance of saving the limb. Injuries produced by railway cars were more profound and severe than those received otherwise, owing to the relative speed, the weight of the cars, etc. There is very little difference, however, between some railway injuries and those sustained in large manufacturing establishments where there is powerful machinery. The surgeon should exercise his judgment as to whether amputation should be performed immediately or delayed.

DR. A. W. ATCHISON, of Denison, Texas, said it was surprising to find what little support the surgeon had in regard to primary amputation. He had searched the different authorities on this subject. Personally, he would favor immediate operation.

DR. R. HARVEY REED, of Mansfield, Ohio, was in favor of primary operation. When the surgeon waits for shock in severe railway injuries, or in a case where heavy machinery has gone over a limb, he only waits for the undertaker, for almost invariably the patient dies.

DR. J. H. BENNETT, of Wauseon, Ohio, advocated primary amputation. One of the principal elements of reaction and repair is rest. The surgeon should, there-

fore, put the patient at rest as soon as possible after the injury. This could not be done, however, in the case of a badly mutilated limb, and the surgeon should perform amputation before reaction sets in.

DR. J. H. MURPHY, of St. Paul, had been a railroad surgeon for twenty-four years. The time to operate depended wholly and solely on the judgment of the surgeon. A man without judgment was not fit to be a railroad surgeon. He did not think there was any surgeon who could go into court and testify when an amputation should be done.

DR. W. L. SCHENCK, of Osage City, Kansas, protested against one thought brought out in the paper: *that the operation should be performed immediately*. It was misleading to the young surgeon.

DR. VON MANSFELD, of Nebraska, called attention to the influence upon the nervous system and brain as a distinction between railway and military surgery. The surgeon has no more hopeful subject to deal with than the boy who works on a railroad; whereas, in military surgery the excitement during engagements is such that any injury is accompanied by a severe shock that may kill the patient. Where a patient has sufficient vitality to withstand an operation, he would not hesitate to perform it.

DR. ALLEN, of Liberty, Missouri, said gunshot wounds were rarely followed by much hæmorrhage. He had never seen a severe hæmorrhage during the whole war; whereas, in railway injuries one of the prominent features is hæmorrhage. This, he thought, was a striking distinction between railway and military surgery.

With regard to the propriety of operating, he presumed no surgeon would operate on a pulseless patient, or one in whom collapse would follow shock. When, however, the indications were such as to justify an operation, he would certainly do it.

Shock, he thought, could be overcome by alcoholic stimulants, coupled with large doses of morphine, one-half of a grain of

the latter, if necessary, followed by the use of chloroform. He believed that ninety-five per cent. of all the cases of shock could be thus overcome. If the pulse rallies under chloroform he regards it as a favorable sign.

DR. S. S. THORN, of Toledo, Ohio, would operate if the patient rallied under an anæsthetic. He then referred to the septic period. Somebody wrote "*Woe to the surgeon who operates in this period.*" According to his observations, patients operated upon during the septic period, as a rule, died.

DR. OUTTEN said there was one element that had borne him down and which he had been thoroughly incompetent to treat, and that was *shock*. He would venture to say in violent railway injuries that thirty-three per cent. of the cases die of shock before the surgeon can interfere.

DR. C. B. MILLER, of Lawrenceburg, Indiana, said in railway injuries and accidents the shock is greater, for the reason that in a large number of cases those who are injured on railroads see the object that is coming; while those who are wounded in the army are wounded without knowing they have been struck until a short time after.

He could not agree with Dr. Allen who had said that gunshot wounds rarely gave rise to much hæmorrhage. He had made a great mistake, for they were much more liable to bleed than some of the injuries received on railroads.

FIRST DAY—EVENING SESSION.

DR. REED read a communication from the Secretary of the American Public Health Association, requesting that some member be appointed to prepare a paper on Railway Sanitation, to be read at the next annual meeting of the Association, to be held in Brooklyn, New York, October 23-24-25.

No action was taken on the communication.

Dr. ROBERT BARCLAY, of St. Louis, read a paper entitled

THE WHISTLE SIGNAL,

in which he recommended aural tests to be scientifically applied to all railroad employes, just as color tests are now applied.

Dr. MURDOCH thought the suggestions offered were good. The engineer should have a good ear as well as a good eye, and considerable attention had been given to the latter of late in the employment of engineers, firemen, and pilots on vessels. The subject of the ear should in future engage the attention of railway surgeons, and he would suggest that they be included under one head, if it is thought well to act on Dr. Barclay's suggestions, as ophthalmology and otology usually go together.

Dr. ADOLPH ALT, of St. Louis, read a paper entitled

PTERYGIUM AMONG RAILROAD MEN, which was referred to the Committee on Publication.

RECORDING SECRETARY STEMEN made an appeal for the spread of the sentiments which gave rise to the formation of the Association.

The Corresponding Secretary read a few of the many letters he had received from the general managers of railroads pertaining to the organization, the tenor of which was very favorable to the Association.

MAY 3RD, SECOND DAY—MORNING SESSION.

Dr. A. W. ATCHISON, of Denison, Texas, read a paper on

RAILROAD STRETCHERS.

The paper was discussed by Drs. Mansfield, Outten, and A. W. Ridenour of Massillon, Ohio.

A further discussion on the establishment of union hospitals followed at this juncture, which was participated in by President Jackson, Dr. W. P. King of Kansas City, and Dr. Ridenour.

Dr. FULTON, of St. Paul, read a paper on Railroad Injuries of the Eye.

SECOND DAY—AFTERNOON SESSION.

Dr. REED contributed a paper entitled CLINICAL OBSERVATIONS ON SOME OF THE EFFECTS OF DIRECT AND INDIRECT TRAUMATISMS OF THE BRAIN.

The paper was not discussed.

OFFICERS FOR 1890.

President—Dr. J. B. Murdoch, Pittsburgh, Pennsylvania.

First Vice-President—Dr. W. B. Outten, St. Louis, Missouri.

Second Vice-President—Dr. Elliott, Atlanta, Georgia.

Third Vice-President—Dr. W. B. Rogers, Memphis, Tennessee.

Fourth Vice-President—Dr. J. F. Pritchard, Manitowoc, Wisconsin.

Fifth Vice-President—Dr. G. P. Conn, Concord, New Hampshire.

Sixth Vice-President—Dr. T. P. Livingston, Plattsmouth, Nebraska.

Seventh Vice-President—Dr. F. J. Bancroft, Denver, Colorado.

Recording Secretary—Dr. C. B. Stemen, Fort Wayne, Indiana.

Assistant Secretary—A. G. Gumaer, Buffalo, New York.

Corresponding Secretary—Dr. E. R. Lewis, Kansas City, Missouri.

Treasurer—Dr. R. Harvey Reed, Mansfield, Ohio.

The Association then adjourned to meet in Kansas City, Missouri, on the first Thursday in May, 1890.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON NEUROLOGY.

LONDON CARTER GRAY, M.D., CHAIRMAN.

Stated Meeting, April 12, 1889.

NERVOUS SYMPTOMS ARISING FROM OVARIAN DISEASE, AND THEIR TREATMENT.

Dr. CHARLES L. DANA said that the term ovarian irritation is an uncertain one, and hardly correct, since the uterus and the tubes are appendages of the ovaries and may share in the trouble. The changes in the organ are anatomical and physiologi-

cal. The most frequent one is chronic hyperæmia, which he says is the same thing as chronic ovaritis. To this condition are referred vasomotor disturbances, cardiac disorders, hysteria, epilepsy, mania, melancholia, chorea, neuralgic states, spinal irritation, sciatica, migraine, and irritability of the bladder and rectum. In his opinion chronic ovarian hyperæmia cannot produce any of the severe constitutional neuroses, and that removal of the ovaries does not, as a rule, remove grave neuroses, such as chorea, epilepsy, melancholia, and intractable neuralgias. In about one-half of such cases in women the ovaries are perfectly healthy, while in those whose ovaries are thoroughly diseased no such neurotic symptoms occur. He thought that many of Battey's cures were simply cases of convulsive hysteria which would have recovered under any treatment. Of ovarian mania, Battey reports four cases with one cure, and Goodell five cases with four cures, from removal of the ovaries. These were probably cases of hysterical insania in which, according to Clouston, the proportion of cures under any treatment is sixty per centum; upon the whole he thought that the ovaries by themselves occupy a very subordinate place in the production of neuroses.

DR. W. GILL WYLIE said that he was substantially in accord with the main points made by Dr. Dana. Imperfectly developed women are especially prone to have diseased nervous systems, and it is often very difficult to separate symptoms actually caused by diseased ovaries from those caused by an imperfectly developed nervous organism. He has also found that most cases of uterine or ovarian disease are complicated by at least an abnormal condition of the colon or rectum, and many brilliant cures of supposed uterine or ovarian disease are made by dilating the anus and thus removing reflex disturbances caused by anal pressure.

Similar facts are true in cases of dilated and sacculated colon.

An inflamed ovary will cause reflex symptoms, especially for some days preceding menstruation, on account of the increased vascular tension existing at that time. An ovary imprisoned by a firm peritoneal exudation will cause unusual reflex symptoms and local pain, due to the resistance offered to the maturing ovum swelling under the peritoneal adhesions, or to the occluded Fallopian tube and abnormal ovulation resulting in cystic degeneration and the swelling cysts stretching the peritoneal adhesions. He has seen several cases where the reflex symptoms amounted almost to insanity, caused, as was shown when the abdomen was opened, by a thickening and hardening of the ovarian tissue, resulting in the production of a very great increase of the fibroid tissue, and, in some cases, of small nodules or fibroid tumors on or in the ovary. In this class of cases the patients suffer intense local pain, and just before menstruation become very irritable, and excitable to an extreme degree.

As to treatment, in all cases where the reflex symptoms or the nervous symptoms are marked, he invariably gets the advice of a neurologist before resorting to active treatment, so as to avoid the mistake of exciting and bringing to a climax some commencing or undeveloped disease of the nervous system. Then, before attempting to reach a positive diagnosis he makes it a rule to keep the patient for some weeks under his own observation, unless the symptoms demand immediate surgical interference. Also before deciding whether an ovary is enlarged or decreased, he thinks it wise to insist upon an examination of the patient under ether. If one can plainly make out disease of the ovaries, indicated by fixation or enlargement—that is, permanent enlargement, the organ being as large as a small hen's egg—and if the symptoms are not relieved or

rendered latent by improving the general health of the patient, or by the use of means to improve the local circulation, such as counter-irritants, etc., then laparotomy should be considered, if the subjective symptoms warrant it.

But unless actual physical disease can be plainly made out by local examination under ether, he would not advise laparotomy until every other means, in the hands of several different physicians, have been faithfully tried. He said he was sure that in many cases where the ovaries have been removed, if the influence of imperfect development had been recognized, and a simple stimulating local treatment, combined with careful attention to improving the general condition, had been properly carried out and persisted in, the patients would have saved their ovaries and regained their health as completely, if not more completely, as by castration. In these cases he said he was accustomed to apply cotton pledgets soaked in a solution of boro-glyceride and glycerine twice a week, to dilate the uterine canal once a week between the menstrual periods, and make a stimulating intra-uterine application. In some cases he applied electricity, and in others put in a drainage plug for a week every three or four months, etc.

When there was distinct nervous disease he did not think much could be accomplished by the removal of the ovaries. Personally he had performed the operation in but five cases, and only one of the patients was cured, while three were not at all benefited.

DR. B. SACHS said that in his own experience, in cases of true hysteria the symptoms always return after a longer or shorter period.

DR. M. P. JACOBI said that it was her opinion that ovaritis never occurs as a primary disease, but is always associated with an endometritis of the fundus of the uterus, and she made the conservative

remarks which are associated with such an opinion.

DR. W. R. BIRDSALL agreed very fully with Dr. Wylie. He knew of patients who successively had their nasal septa straightened, their ocular muscles cut, their uteri cured of malpositions, and their bladders relieved of irritation. All of these methods of treatment had improved the condition of the patient for the time being, but scarcely had one set of symptoms been controlled when a new set would be developed. He referred to cases of general neuralgias not relieved by nerve resection, and of removal of ovaries without even temporary benefit, as showing that the removal of a painful organ does not necessarily cure a neuralgic pain long established. In conclusion, he said there are two extremes to this question, "but that in the future no doubt cases would occur in which removal of the ovaries would be attended with benefit."

DR. H. T. HANKS agreed substantially with Dr. Wylie.

DR. BOLDT agreed with the general conservative opinion and added that as a result of his experience he thought that in cases in which the ovaries appear to be normal, no matter how severe the nervous symptoms may be, the removal of the ovaries will not afford relief. In some cases of nervous trouble the symptoms were decidedly worse after removal than they had been before, and he thought that the ovaries should never be removed until all other means of treatment had been exhausted.

BRITISH GYNÆCOLOGICAL SOCIETY.

Meeting Wednesday, April 10, 1889.

GENERAL FIBROID DEGENERATION.

DR. R. T. SMITH showed a specimen of unusual interest, consisting of the contracted stomach, ovaries, and uterus removed from a patient, and showing changes of great rarity. There was fibroid thick-

ening of the stomach, intestines, peritoneum, ovaries, and pelvic viscera, and the case had a peculiar interest from a clinical point of view, because the patient came to the hospital with a large abdominal swelling, which naturally caused the question of operation to be discussed. It also raised the question of the remote consequences of chronic pelvic inflammation. The patient was thirty-five years of age. She had been married twelve years, and had one child ten years previously. For four years she had been getting larger in the body, and complained of smarting pain in the abdomen. About a year ago the appetite began to fail, and vomiting occurred twice or three times a week. Then the symptoms became such that she had to keep her bed. For the last four months the navel had protruded to the size of a nut, and was tender. Menstruation was normal. She had night-sweats and cough, and was very much emaciated. She said she had always been a "bilious" subject, and after her confinement had an attack of inflammation, which kept her in bed for a month. On admission the abdomen was uniformly distended, and measured 33 inches at the umbilicus. The most noticeable feature after the abdominal distention was the varying resonance, which moved slowly as she changed position. The diagnosis lay between malignant disease of the omentum and rupture of a cyst. On deep palpation masses could be felt. The uterus was fixed in all directions, and the anterior cul-de-sac was occupied by a dense elastic swelling. On November 27, in consequence of the severity of the vomiting, she was tapped, and seven and a half pints of fluid were drawn off, the first part of which was clear, but the latter part like soup. Then the diagnosis of omental cancer seemed fixed. She was tapped again on January 10, and died a fortnight later, after very severe vomiting, which presented this curious feature, that she rejected the first part of a meal,

but retained the rest. *Post mortem* it was found that the liver and spleen were normal, except as regards the peritoneum, which was greatly thickened throughout, was white and opaque, and was generally granular. All the other organs were contracted by the growth of fibrous tissue, and the small intestines were crowded together into a mass. The peritoneal cavity contained turbid serum. The stomach was greatly reduced in size, chiefly by fibroid degeneration of the sub-mucosa. The uterus was fixed in acute ante-flexion. The ovaries were larger than normal, and were firmly fibrous. Microscopical examination showed that there was universal thickening of the sub-peritoneal connective tissue, due to fibroid changes. He observed that the condition was one as to which very little was known, although Fagge refers to a case which was the exact parallel of his own, and that author suggested that the condition might be associated with chronic pelvic inflammation.

DR. BEDFORD FENWICK mentioned that he had ransacked the records of the Pathological Society, but he had not been able to come across anything at all like it. He would move that the specimens be referred to the pathological sub-committee.

The motion was seconded by Mr. TAIT, and was agreed to unanimously.

DR. ROUTH asked whether the condition had anything to do with what he was disposed to call an epidemic of fibroid? He had never heard so much about fibroid in women as at present, and as cancer had increased in frequency, he asked whether fibroids had done so also, and if so, wherefore?

DR. TRAVERS asked whether there was any history of syphilis or spirit drinking?

DR. RUTHERFORD asked whether there was any tubercular history?

DR. SMITH, in reply, said that for four years, the patient had been subject to vomiting and pain after eating. There was no history of syphilis nor spirit drinking.

FIBROID TUMORS OF OVIDUCT.

DR. HEYWOOD SMITH showed two specimens of considerable interest. One was of fibroid tumors of the oviduct removed from a lady, æt. 32, married ten years, no children. She had been seen by Professor Wallace, of Glasgow, four years ago, and he had found some swelling in the neighborhood of the ovaries. He operated on the 22nd March last. The left ovary was evidently dermoid. The oviduct was enlarged towards the fimbriated extremity, and was distended with inspissated pus. The ovary on the right side was perfectly healthy, but the oviduct exhibited that rare condition of fibroid tumor, of which there were several. The patient did well, and was up and about in little over a fortnight.

MR. LAWSON TAIT thought at first that what Dr. Smith had taken to be fibroid growth was in reality cheesy pus contained in a thickened tube, but on further examination withdrew this remark.

DR. ROUTH suggested that this specimen also should be referred to the pathological sub-committee for examination and report, and this was agreed to.

DR. BANTOCK said it appeared to him to be an exaggerated condition of what they called chronic salpingitis, without any accumulation in the tube.

ABSENCE (?) OF OVIDUCTS.

DR. HEYWOOD SMITH then showed the appendages removed from a young married woman. She had been married for nearly seven years, never had a child, but was said to have had four miscarriages, the last two years ago. She began to menstruate at ten and a half. Since her marriage she had had fits of hysterio-epilepsy, as many as nine or ten in a day. Then she had brain fever for seven months, with delirium, and later on was laid up for three months after her supposed second abortion. There was no flexure of the uterus, which, however, was shunted to the right of the middle line. It measured two and a half

inches, and to the left there was a cystic swelling. The remarkable thing in the specimen was that he could find no trace of the oviducts, and he asked the opinion of the Fellows as to whether they were dilated and folded down on the ovaries.

MR. LAWSON TAIT said that either there were no tubes to remove, or they must have been left behind by Dr. Smith. He was inclined to take the former view. He observed that it was perfectly possible to get completely developed ovaries and no tubes at all.

DR. BARNES said he thought that the statements as to miscarriages ought not to be accepted unless the remains of the ovum had been seen. Decidua might be passed with blood after a suspension of menstruation, and give rise to the impression that a miscarriage had taken place. On the suggestion of Dr. Heywood Smith this specimen was also referred to the sub-committee for examination and report.

CASE OF EROTIC FEELINGS PRECEDING AND FOLLOWING EPILEPSY.

DR. ROUTH read the notes of a case in which erotic symptoms preceded epilepsy. The patient was a lady whom he had first seen in 1874. She was then unmarried, and was suffering at that time from leucorrhœa, with ulceration of the cervix and follicular vaginitis, also dysmenorrhœa. She complained at times of something very much like fits. She was markedly hysterical. She had been addicted to habits of masturbation. She was now married, and had had three children. Since her marriage the fits had recurred, and sometimes followed conjugal relations. They were always stayed by valerian and the bromides. He read his notes of the case on October 18th. The catamenia had been unusually copious, but had lately been very irregular, and finally stopped, and headache and symptoms of confusion of intellect had followed. She was then forty-five. The uterus was very large, reaching above the umbilicus. The passage of a

sound into the uterus was very painful and brought on a fit. He ultimately decided to try the effects of the negative electric current to reinduce a menstrual flow, but on the occasion on which he did this she developed strong erotic symptoms, and had an epileptiform attack, after which she again became aggressively amorous to a lady to whose care she was for two hours consigned. The author pointed out that these were precisely the circumstances under which charges were made against medical men, and though his long standing relations with this particular patient prevented anything of the kind, in that case, it was evident that the situation was full of danger under other circumstances.

DR. HILLS said it would be a great advantage to fellow practitioners if the details of this case be consigned in the "Transactions," so that it might be available on any future occasion.

MR. TAIT referred to the well known case of Dr. Bradley. He said that it was important to notice the association of a certain form of epilepsy with an erotic condition. These things ought to be widely known. They ought to be in our text-books, and men should not be sent to prison on charges made by women who were very likely to be suffering from sexual disturbances of this kind. He added that another curious point was charges brought by children under the new law. He had been engaged by the police to investigate these cases, and in only one out of twenty or thirty was there reason to believe that such an offense had been committed.

DR. BARNES said it was important that this case should be put on record, and mentioned a case in his own experience, insisting upon the necessity of inquiring into these statements very carefully.

DR. HEYWOOD SMITH said that the relation of the electric current to the production of these feelings ought to be cleared up.

MR. TAIT said that one would like to know from authorities on epilepsy how far the erotic excitement was the cause of the epilepsy?

DR. HEYWOOD SMITH pointed out that in the case he had just brought forward, the patient had no fits before marriage, but afterwards had seven or eight in a day.

DR. BEDFORD FENWICK insisted upon the importance of remembering the connection that existed between erethism and mental trouble.

DR. PURCELL asked whether there was any epileptic history in Dr. Routh's patient?

THE PRESIDENT said the application of the current to the interior of the uterus was not likely to give rise to erotic feelings. The cervix was sensitive, and that might be protected. He asked whether the woman in Dr. Routh's case had expressed the opinion that liberties had been taken with her. He thought that gynecologists were in a better position than most practitioners since patients came to them expressly to have their reproductive organs examined.

DR. R. T. SMITH said that he had been consulted only that week in reference to a young lady, aged 23, who had had fits, consequent on masturbation.

DR. ROUTH, in reply, said his only object in bringing the case before the Society was to place on record a well authenticated case in which erotic symptoms preceded, and followed epileptoid attacks. It was for the same reason that he read his paper on Nymphomania in order to show the absurdity of certain charges made. He observed that even an ordinary vaginal examination was sufficient in some women to provoke the sexual organs, therefore it would not apply to electricity only. The patient had not accused him of having taken liberties, but she had retained her impressions, and had expressly authorized him to publish the case because she felt that other people under similar circumstances might bring a charge against medical men.

THE MEDICAL SOCIETY OF LONDON.

The annual *conversazione* of the Medical Society of London was held in the Society's rooms on May 6th; the Fellows and guests were received by the President, Dr. C. Theodore Williams, immediately after the annual Oration had been delivered by Mr. Jonathan Hutchinson. Some of the instantaneous photographs, illustrating consecutive phases of locomotion, made by Mr. Eadward Muybridge, of the University of Pennsylvania, were exhibited. Dr. C. Theodore Williams showed Ketchum's pneumatic cabinet, and Mr. Edmunds the graphophone.

MR. JONATHAN HUTCHINSON chose for the topic of his lecture "The Clinical Uses of Rare Diseases." The diseases which presented the most apparent peculiarity were often, if correctly understood, the most definite examples of evolution under ordinary laws. Of a very large number of diseases which ranked as rare it must be asserted that they were simply exaggerated or over-grown examples of those which were common. They presented nothing really novel, but showed everything strongly marked. Not the most superficial observer could fail to have his attention arrested by a well characterized example of Graves' disease; but for one case which rises to such degree of severity as to justify the diagnosis, there were probably twenty in which the condition was threatened, but never became complete. Further, there was no law under which Graves' malady necessarily acquired its full characteristics; so far from its being a malady *sui generis*, it was only a name given to extreme examples of a certain disturbance of vasomotor function of which minor instances were of everyday occurrence. Here the common might help the rare, as offering illustrations of treatment; for after much indefatigable search for drugs which might control the locally defective vasomotor function, the conclusion seemed to be that the real remedy in

all cases, the severe as well as the slight, was a prolonged and well-marked change of climate; again, it would be admitted even more readily than in the case of Graves' disease that the domain of myxœdema was not well defined. For one case that was well marked there were twenty that were not so. So common, indeed, were some of its features—the flabby, thickened skin, the featureless face, the general obtunding of intellect—that we might be tempted to suspect that it was only one of the ordinary forms of premature senility to which a large proportion of women were liable.

If it were true that many of the diseases accounted rare were simply exaggerated specimens of what was common, it was also true of others that they revealed individual idiosyncrasies of exaggerated intensity. The malady known as xeroderma pigmentosum (or perhaps preferably after the name of the first observer, "Kaposi's disease") was a noteworthy instance of this; all examples of unusual freckling, indeed, perhaps all freckling whatever, denoted a minor form of Kaposi's disease. In rare cases, and chiefly in connection with marked family tendency (as made evident by several brothers and sisters being successively attacked), the proclivity might go much further. The freckles might coalesce, might inflame, ulcerate, destroy the features, produce neoplasms, and even pass on into epithelial cancer, yet, in scleroderma pigmentosum there was no pathological novelty whatever. It was very far from being a disease *sui generis*. It was simply an exaggeration of what was common, receiving its final intensification under those laws of heredity which evoked "family" diseases. Raynaud's disease afforded a good illustration of the doctrine of exaggeration as explanatory of rare diseases. Every one who got a dead finger from putting his hands too long in cold water, or a blue nose from

exposure to a wintry wind, illustrated in those occurrences all that was essential to the malady in question. An exaltation of reflexes which were normal, and intensification of vasomotor susceptibility which in low degree were a part of the organization of the most healthy, such was all that was witnessed in the most marked forms of Raynaud. Finally, as had been pointed out by Dr. Barlow, the conditions which were at first functional only and transitory, might gradually produce structural changes, and the case which was simply asphyxia of the extremities at first, might slide on into one of diffuse scleriosis of the skin.

As illustrations of what might be learnt in reference to anatomical and physiological laws from the careful observation of rare cases, he would mention three examples of a demonstration as to the position of the spinal center for the act of copulation; physiologists, indeed, were agreed that it was higher than, and distinct from, that which supplied muscular force to the sphincters and regulated micturition and defecation. A gentleman who had recovered after a severe fracture of the lower dorsal vertebræ, with considerable displacement, had permanent paralysis of the sphincters of the anus and urethra, and some weakness of both the lower extremities. He retained the power of copulation undiminished. In two very parallel cases, young gentlemen who had experienced spontaneous recovery from spina bifida applied to him for leave to marry. Both were quite confident as to their sexual ability, and both were now happily married. Yet in both of them the two sphincters were paralyzed. It was of great importance to make good use of all opportunities which daily practice afforded for observation as to physiological laws of this kind.

In the remarkable affection recently named "dry mouth," or xerostomia, the

whole mouth became quite dry, and, since the condition was unattended by any other symptoms, it might be taken as proved that there was a center which controlled the function at once of the salivary glands and of all the mucous crypts and smaller gland organs which were found in the mucous membrane of the cheeks, palate, gums, and tongue.

It was not unimportant to assert that there were absolutely no cases which were unique. However strange and bizarre might be the phenomena in any individual case, we had but to wait long enough to find their exact parallel. This fact proved that ordinary laws underlay all that we recognize by the name of disease, however exceptional. There was a form of epithelial cancer of the face—crateriform ulcer—which was like nothing else, and all the examples of it were exactly alike. There must be some very special influence which stamped the exceptional disease (the crateriform) in all its stages with such peculiar features of individuality. He had noticed the conjunction of what might be called the black freckles of the aged with cancer. A gentleman near 60 years of age came with an ugly fungating ulcer in his lower eyelid. It was clearly malignant, below it was a coal-black patch, which had been there for six years or more, and was gradually increasing. The malignant ulcer close to it had been present only about six months. Within a few months another case, in all respects exactly like, came under his care. In this instance the patient was an elderly lady. It seemed difficult to withstand the suggestion that there must be some connection between the black patches and the cancer. The close juxtaposition of the two conditions could scarcely be a mere coincidence. He believed that they illustrated, in the first place, the general law that, in aged persons, all local disturbances of nutrition had a tendency to slide on into cancerous action: and next another law, as regards

malignancy, that its precise form might change with the precise tissue attacked.

In connection with these extremely rare examples of malignant development in senile structures, and of the gradual transformation of innocent hypertrophies into malignant ones, he instanced *granuloma fungoides*: the essential feature of the disease was that the skin was attacked in the first instance by areas of inflammatory thickening, having no similarity to cancer in any way. Gradually the state became aggravated, and finally large fungating growths developed, which in all their clinical features were malignant, and which caused the patient's death. Still, even to the end, the growths were neither epithelial nor sarcomatous, and they displayed a susceptibility of cure in some parts, whilst they developed in others. The cases which had been grouped together as examples of it were not all closely parallel, but they constituted connecting links, as it were, between inflammatory disorders and those of truly malignant character.

All that had been said as to *granuloma fungoides* applied with at least equal force to such maladies as *pityriasis rubra*, *lichen scrofulosorum*, *lichen ruber*, *lichen planus*, *morphea*, and a whole host of others. In the departments of neurology and ophthalmology, also, new maladies of great rarity had recently been discovered and named, which reflected back most valuable light upon the domain of general pathology. The discovery, separation, and naming of new diseases was not, as a rule, accepted with much gratitude. *Acromegaly* might be taken as an example. Most people on first hearing of it had felt a profound hope that they might be spared any further acquaintance with an outlandish name for a disease probably of no consequence. Yet under this quaint name was designated a marvel calculated to excite the deepest sentiment of wonder. That it should be possible for a man's head,

feet, and hands to simultaneously take on overgrowth, for his scalp to get thick, his skull thick, his face enlarged, and for his fingers and toes to double their natural dimensions, was indeed a pathological phenomenon of the most unlooked-for kind. Our annoyance with the mention of the name and the discussion of the disease named ceased as soon as we realized the thing. So it was with other instances—repulsion at first, gratitude afterwards. Without doubt, those who gave new names had much to answer for if they did it injudiciously. Needless and inconvenient change was reprehensible, but there was no avoiding the introduction of many new names into all departments of clinical observation. Confusion arose only when different things were called by the same name. In the future progress of clinical knowledge, it was unavoidable but that names must be multiplied. There was no objection to the use, for a time at least, of the name of the discoverer as a designation for the thing he had discovered.

It was the duty of all who gave names, whether to their own discoveries or to those of others, to afford to the profession the best possible means of identifying and distinguishing that which was named. As soon as such identification could be easily made, the new name ceased to be an annoyance, and it became a matter of pleasure to employ it.

The zeal for nominal diagnosis, the anxiety displayed, especially in dermatology, to place every case under some recognized name, sometimes brought to mind the story of the old woman who remarked that it was a thing to be thankful for that when Adam gave names to the animals he named them all right. There seemed sometimes to be almost a degree of forgetfulness that the nature of the disease was of far more real importance than its name, and that this might be recognized quite independently of the name in use, and possibly even better

without it. Names very often had the effect of cramping our conceptions of the realities.

CLINICAL SOCIETY OF LONDON.

FIVE CASES OF DISEASE OF THE MIDDLE EAR COMPLICATED BY SUPPURATION IN ITS VICINITY.

MR. ARBUTHNOT LANE read brief abstracts of these cases, which he had had under his care during the last few months, and in which the complications differed in each case. He felt justified in bringing them forward for the reason that, though such cases were not uncommon, the symptoms indicative of the presence of each possible complication, or of the existence of any complication at all, were frequently very indefinite, and often insufficient to enable the surgeon to make anything approaching a certain diagnosis, and the time for decision was very often so short that he could not be too familiar with the varying details of a number of cases. He considered that the risks involved in operative interferences were comparatively slight, and in doubtful cases the middle ear and its vicinity should be thoroughly explored. Case I was that of a woman, aged 38, who on August 21st, 1888, "ricked" her neck. She felt at the time as if something had given way in her right ear, which up to that time had caused her no trouble whatever. At the same time, she noticed that pus was escaping from the meatus. She was then affected with headache, gradually increasing in intensity, in the right half of the head, and with pain beneath the upper half of the sterno-mastoid. Mr. Lane saw her on September 5th. Pus welled out freely from an aperture in the membrana tympani. The right ear was quite deaf. There was no optic neuritis. There was a tender and painful swelling beneath the upper half of the sterno-mastoid. The mastoid process was tender on percussion. The mastoid cells were freely opened up with a gouge,

and were found to contain offensive pus, and a channel was cut into the middle ear from which pus and caseous material were removed. The lateral sinus was seen to be healthy. A metal drain was fixed in the middle ear, and that cavity irrigated daily. On August 2nd, an abscess beneath the sterno-mastoid was opened, and a probe could be introduced through it into the mastoid process. The patient was now in excellent health. Case II, a girl, aged 12½, was admitted into Guy's on September 18th, 1888, under the care of Mr. Howse. In August, 1887, an abscess formed in her right ear, and was well in a short time. She had no further trouble till a fortnight before her admission, when she was attacked with great pain and swelling in and about the same ear. On admission there was a copious discharge from the meatus, and a large fluctuating swelling extending for about two inches upwards, backwards, and forwards from the ear. This abscess was freely incised and irrigated, and was found to communicate through the meatus between the cartilage and bone with the middle ear. After this the child lost all pain, and was going on remarkably well till, on September 23rd, she became a little drowsy in the morning. The drowsiness increased during the day, the left pupil became dilated, and the child vomited. At 10.45, Mr. Lane saw the child in Mr. Howse's absence. The respirations were then extremely slow, the child was quite unconscious, and there was no optic neuritis. Considering that an abscess in the temporo-sphenoidal lobe had probably ruptured into the lateral ventricle, he proceeded at once to open it, and removed from the temporo-sphenoidal lobe a large quantity of offensive pus and fluid. A drainage tube was inserted, and the cavity thoroughly irrigated. The respirations gradually resumed their normal frequency, and the child flinched when hurt. The improvement did not last very long, for on the following morning the respirations be-

came again very slow, and the child died. The *post-mortem* examination verified the diagnosis. This abscess had given no indication of its presence till within eighteen hours of death, and then the symptoms which arose were consequent upon an extension of the inflammation. Case III, a girl, aged 12, had always been healthy till September 13th, 1888, when she caught cold; she then observed that there was a purulent discharge from her right ear which ceased in a few days. On September 25th, when blowing her nose, she felt something crack in it, and on the following day pus escaped from the meatus, and she complained of pain in the back of her head. The discharge continued, and the headache increased in intensity till October 4th, when Dr. Heron was called in, and he asked Mr. Lane to see her with him. They found no pain, tenderness, or swelling about the ear or mastoid process. Fœtid pus escaped through a hole in the membrane. There was double optic neuritis and retraction of the head. She answered questions readily. The right ear was quite deaf. She was admitted into Guy's that afternoon. The mastoid process was opened up, and a localised collection of pus found in its deepest part. The lateral sinus was healthy. About a drachm and a half of very offensive pus was removed from between the posterior surface of the petrous bone and the dura mater. This cavity and the middle ear were drained, and irrigated daily afterwards. October 5th, the child had quite lost the headache, and the retraction seemed less marked. There was a considerable escape of pus. She progressed very favorably till October 8th, when the temperature ran up to 105.6° at 2 A. M., and the headache and drowsiness returned; she gradually grew worse, and died on October 14th. The *post-mortem* examination showed that the dura mater pressing the wall of the abscess-cavity had sloughed, and the arach-

noid cavity below the tentorium was in communication with the cavity of the abscess, and full of pus. Case IV was admitted under Dr. Perry, August 15th, 1888. Since he was eighteen months old he had suffered from periodical attacks of discharge from the right ear preceded by pain every two months. A polypus was removed in November, 1887. On August 8th, 1888, one of these attacks came on, and on the following day the discharge appeared. He vomited, and was dull and feverish. On August 15th, a small polypus was removed. On his admission on August 15th, he was in a semi-comatose state. Both discs were swollen. A scanty, offensive discharge escaped freely through a hole in the membrana tympani. August 16th, he had a rigor. Mr. Lane was asked by Dr. Perry to see the boy, and he opened up the mastoid cells freely, but found no pus. August 18th, the boy was better in the morning, but became dull in the afternoon. He had a rigor. August 18th, another rigor occurred. Mr. Lane gouged away a further portion of the mastoid process, and opened up a small collection of very offensive pus in it immediately adjacent to the lateral sinus. Similiar material covered the sinus, whose outer wall and contents were soft and fœtid. The lateral sinus was cleared of its septic contents upwards and downwards till apparently healthy clot was reached. The internal jugular vein was tied below the thrombus to prevent any escape of blood from the sinus, and the entrance of antiseptic agents or septic material into the circulation. A drainage-tube was inserted into the lateral sinus, which was irrigated daily. After the operation the temperature rarely exceeded 100° , and the boy recovered very rapidly. He left the hospital on October 3rd, and had since continued in excellent health. Case V, W. S., aged $7\frac{3}{4}$. Since $3\frac{1}{2}$ years of age he had suffered from attacks of earache and otorrhea on the right side at intervals of two

or three months. On December 17th, 1888, he was attacked by earache, headache, and sickness. On December 23rd, he had two rigors, and vomited three times. On December 24th, he had two rigors in the morning, and was admitted at 12 A. M. under Mr. Lane's care. His temperature was 104° , and he was drowsy. He had severe headache on the right side, and tenderness about the mastoid process; both discs were blurred. Mr. Lane operated at once, and found the mastoid cells tensely distended with fetid pus, the lateral sinus bathed in pus which had escaped from the mastoid process—it was, however, not thrombosed: pus had also escaped from the mastoid process, and collected beneath the sterno-mastoid. The temporo-sphenoidal lobe and the upper and posterior surfaces of the petrous bone were found healthy. The child lost the headache immediately, but he had two rigors on the following day and one on the day after. He suffered continuously from great pain in the abdomen, and his motions were very loose and offensive. For two days his temperature became more moderate, and except that the pain in the abdomen came on at intervals, he seemed much better: the optic neuritis cleared up rapidly. On the 29th his temperature became very irregular and from that date he became rapidly worse, complaining of pain in the abdomen, and suffering from diarrhoea. On January 4th, the base of the right lung had become dull, but aspiration with a morphine needle only yielded blood. The boy rapidly became worse, and died on January 6th. Multiple abscesses were present in both lungs, and especially in the right one. There was no thrombosis of the lateral sinus, and the brain was apparently normal.—Mr. GODLEE asked whether Mr. Lane thought it advisable always to explore the groove of the lateral sinus in all cases of suppuration.—Mr. LANE, in reply, said he had no difficulty in clearing out the lower part of the sinus.

He had ligatured the jugular vein as high in the neck as he could get, and he thought it was wise to do this under the circumstances.

LEONTIASIS OSSEA IN A MAN 24 YEARS OF AGE.

MR. BLAND SUTTON communicated the details of this case. The bones of the face were chiefly affected. The symmetrical bony protuberances usually found on each side of the nose in this remarkable disease had been removed at Charing Cross Hospital. As the lower jaw had of late increased greatly in size, its right half was removed. The enlarged right upper jaw had encroached upon the orbit, producing proptosis, and on the nasal fossa, obstructing respiration. On account of these complications it was successfully removed. The patient recovered rapidly from the operation, but the pressure on the optic nerves still remained, indicating that the sphenoid bone was implicated in the disease. Until the operation was performed on the lower jaw the case was regarded as one of exostosis, but on exposing the jaw its true nature was obvious.—The PRESIDENT said it was the only case he had heard of in which the lower jaw had been operated upon, but he himself had on several occasions operated upon and even removed the upper jaw, though he had come to the conclusion that this was not a desirable thing to do, and in future he would content himself with removing the excrescences of bone.

CASE OF TOTAL EXTIRPATION OF THE LARYNX FOR EPITHELIOMA, WITH RECOVERY AND A USEFUL VOICE.

Dr. GREVILLE MACDONALD and Mr. CHARTERS SYMONDS read notes of this case. The patient was a man, aged 41, married, a commercial traveler, who was first seen by Dr. Macdonald on April 6th, 1888. He had loss of voice, which had been increasing for the previous six months; he had never had syphilis and his family history was excellent; he was a moderate drinker.

but a heavy smoker. He complained of slight dyspnoea on exertion; he had no pain or cough, neither expectoration nor hæmoptysis. The laryngoscope revealed a large, irregularly lobulated, greyish-pink neoplasm, occupying the anterior three-fourths of the rima glottidis; much of the left cord was completely concealed by it, as well as the anterior half of the right cord. On inspiration it fell, leaving the right cord free. The posterior surface of the growth presented a small superficial ulceration. Examination with the probe indicated an extensive attachment to the infraglottic portion of the right cord, while the ventricular band was quite free from implication. Both cords moved freely, except so far as they were impeded mechanically. The posterior fourth of the left cord—the only portion visible—was greatly thickened and much congested. There were no enlarged glands. Dr. Macdonald then expressed the probable need of an external operation. A small portion of the growth was removed and examined and seemed to be an epithelioma. On April 14th he urged extirpation of half the larynx, but an adverse consultation and the patient's wishes being against this, Dr. Macdonald removed the whole of the projecting neoplasm with the forceps on April 24th; hæmorrhage was rather profuse. The growth was soft and friable. On the following day the voice was completely restored: there was no trace of growth, but the left cord was uniformly thickened, rounded, and deeply congested, its movements being perfect. A week later there was seen at the junction of the anterior with the middle third, on the upper surface, a sharply-defined silver surface, flush with the mucous membrane, two or three lines in diameter. On examining this surface with the probe, it proved to be minutely villous. This appearance remained unchanged till July 30th, when the villous surface appeared slightly raised above the surrounding surface, which was yellowish

and opaque. On August 26th there was scarcely any change. On September 8th the voice was worse, the growth had taken a fresh start and was projecting over the margin of the cord, and extending to the anterior commissure. Again an operation was urged, but another opinion, while admitting malignancy, proved adverse to operation. On October 20th the growth had advanced rapidly, appearing very like its first aspect in April, though more congested. Again an external operation was urged. Mr. Charters Symonds was consulted, and asked to perform the operation. —Mr. Symonds then described the operation, which was performed October 28th. 1888. The trachea was opened above the isthmus, and Hahn's tube inserted, after which chloroform was administered. Then a median incision was carried from the upper end of the incision to the hyoid bone. The hyoid, like the thyroid, had to be dissected away. Then, the thyroid cartilage being fully exposed, it was divided in the middle line, and, being ossified, gave some trouble. The crico-thyroid and thyro-hyoid membranes were divided, with the crico-thyroid muscle, when the ala could be drawn aside and a view obtained. The growth was found to be longer than expected, and to involve the whole of the left cord, while the anterior part of the right looked granular and swollen. The mucous membrane and perichondrium were divided close to the upper border of the cartilage and turned off, the superior cornu being divided and left. The outer surface was thus easily freed. Then the inferior cornu was cut off, and here some little difficulty was next experienced in dividing the ligament and muscles. The mucous membrane was next divided below the cords and back to the arytenoid, and the ala being drawn forward the attachment of the arytenoid to the cricoid was severed and this cartilage dissected out of its mucous membrane covering. Then the anterior two-thirds of the right cord were

removed, the end stitched forward with catgut. One vessel, a branch of the superior thyroid, required a catgut ligature. Hahn's tube did not completely prevent blood trickling into the trachea, but a sponge passed into the cricoid ring above the tube effectually accomplished this, so that no trouble of any kind occurred during the operation. Next day Hahn's tube was replaced by an ordinary cannula, surrounded with sufficient gauze to plug the trachea. He was fed for five days with an œsophageal tube. On the sixth he was able to swallow. On the seventh he got up, and left, three weeks after the operation, quite well. His voice was clear and good, and was said by his friends to be better than before. Recurrence took place rapidly, and in December he had to be tracheotomised. Later the growth was seen budding upwards on the right side, but being still purely intra-laryngeal, total extirpation was proposed, and was carried out on December 22d, seven weeks from the first operation. Hahn's tube was again used, and the median cicatrix opened. The larynx was isolated by dividing the attached muscles on both sides, and it was noticed that the left side had become quite hard. Then the cricoid was separated from the trachea and raised from the epiglottis without injury. The connection of the pharynx to the back of the thyroid was divided, and the epiglottis cut through in its lower third. The immense cavity was stuffed as before, and a feeding tube passed by the mouth and retained. This tube was removed in two days, and was passed every four hours by the wound. In ten days he was up and about. On the eighth he swallowed, and by the end of January he had improved in health, and was quite well, save for the escape of saliva through the wound above the cannula. No complication of any kind occurred. He had no pulmonary complication at any time. Mr. Symonds found that the best method of dressing was to use a square of

gauze, and pass its center well down into the cricoid, and then to pack this veil full of strips. The upper part of the wound was not packed so tightly as the lower part, and this allowed the saliva to escape. The patient found also that fluids were best swallowed after the second operation by lying flat upon his back. The patient was shown to the Fellows of the Society. He was in good health and spirits, and there was no sign of recurrence after four months. He could speak in a low, distinct, though gruff voice, and this was managed by passing through the upper wall of the cannula a curved tube which ran up to the base of the epiglottis, and admitted the air when he closed the cannula with the finger. This was found much simpler than the artificial larynx, and, moreover, the patient preferred the sound of his own voice. The vibrating structure appeared to be the mucous membrane of the pharynx running back from the epiglottis. This the authors thought was the first case on record in which the patient was able to speak after total extirpation of the larynx. Mr. Symonds pointed out that he was encouraged to obtain this result on account of a similar case he had heard of through a friend in Berlin. The parts removed were also exhibited. The primary growth was as big as a small hazel nut, while the recurrent one reached from the epiglottis to the lower margin of the cricoid, and had grown forward into the ala of the thyroid. It appeared to have originated in the stump of the right cord, which had been left. A microscopic examination of the growth confirmed the epitheliomatous characters. The artificial larynx, which had been obtained from Vienna, was also shown. The reed emitted a sound like an inferior toy trumpet, and could not be compared in efficiency to the voice possessed by the patient. The patient was able to speak in a loud though 'gruff' voice simply by sending the air upwards through an aperture in the cannula. This was provided for by a large Durham's cannula,

with an opening on the upper wall immediately behind the shield, through which passed a short curved tube in a direction upwards and then slightly forwards, projecting above the lower tube about three-fourths of an inch. In the posterior wall of the upper tube was an opening to admit air to and from the tracheal tube; the pharyngeal mucous membrane, falling in folds over the upper opening, was thrown into vibration, and a good vibrating voice was produced. During deglutition the upper tube was replaced by another of the same size and shape, but closed above so as to prevent the passage of food, etc., into the tracheal cannula. The present laryngoscopic appearances were as follows:—The epiglottis appeared perfectly normal; behind this one saw a funnel bounded by the lateral and posterior pharyngeal walls and the epiglottis; the apex of this funnel was composed of two folds of mucous membrane running antero-posteriorly, from between which, anteriorly, the air passed during phonation, causing them to vibrate. It was now more than four months since the second operation, there was no sign of recurrence, and the man was in good health.

HUNTERIAN SOCIETY OF LONDON.

SALOL AS A DRESSING.

MR. CORNER exhibited a series of cases illustrative of the antiseptic power of salol (salicylate of phenol) as a dressing for wounds, after the part had been rendered aseptic by a 1 in 20 solution of carbolic acid. Salol had a pleasant aromatic odor, could be used freely without fear of irritation or poisoning, was absorbent of moisture, and whilst drying formed a hard but friable covering. It prevented putrefaction, but did not destroy it when established. It had been used in increasing frequency for several years at the Poplar Hospital, and with excellent results in compound fractures and dislocations, also as a dressing in amputations, minor and major, and in

compound comminuted fracture of the skull. The first case shown was a compound comminuted depressed fracture of the frontal bone, in which the bone was elevated, and some spicules removed, the wound being afterwards washed with 1 in 20 carbolic acid, the opening filled with salol, and a drainage-tube inserted. The dressing was undisturbed for fourteen days, remained sweet, and the wound healed on the twenty-sixth day. The temperature remained from the first under 100°. A second case treated in January, 1889, was a compound fracture of the olecranon, head of radius, and humerus, opening the elbow-joint, with considerable damage to the soft parts, the elbow having been crushed by the passage of a railway engine over it. The olecranon was split and drawn up, causing serious tension of skin, and necessitating removal of both portions. The antiseptic treatment and dressing were the same as in the previous case, but required changing after four hours and again next day in consequence of oozing through; the parts were then left undisturbed for thirty days. The temperature went up the day after the injury, and remained about 101° F. for three days, 100° F. for two days, then became normal. The other cases were shown, one a crushed compound fracture of the finger done up twenty-one days before, and not exposed since, there having been neither pain nor elevation of temperature; the other was a compound fracture of the first phalanx of the finger, dressed at the time of the accident, and undisturbed for a month, when it was found perfectly healed. It was pointed out that this was the common experience in such cases, and that even if gangrene followed, the parts remained sweet.

BRITISH GYNÆCOLOGICAL SOCIETY.

CONSTRICTED SEA-TANGLE TENT.

DR. BANTOCK showed this, as gynecologists denied the existence of constriction of

the internal os. The patient was a young married lady who had had incision of the cervix performed in 1886 by severe dysmenorrhœa; about a week later a glass-stem was introduced, but had to be removed speedily. Five months later she had an attack of what was called pelvic peritonitis. Eight months ago he found the uterus very tender and retroverted. The left ovary was enlarged and prolapsed. The question of removal of the appendages, even if suggested, would not have been entertained. He could only adapt a pessary and enjoin rest. This treatment conferred relief from the general symptoms, the ovarian tenderness, but not from the dysmenorrhœa. Thinking it advisable to dilate the uterus, he found the obstruction would not yield to graduated bougies, and wishing to explore the uterus, he introduced a tangle tent. At the end of twenty-four hours it would not move, in forty-eight it was removed with difficulty, and a glance at the tent shown must convince the most skeptical as to the constriction. Dysmenorrhœa due to a uterine condition was far more frequently to be found at the internal than at the external os. No local or constitutional disturbance followed.

MASSAGE.

The discussion on DR. MACNAUGHTON JONES' paper was resumed.—DR. BANTOCK feared that in a great measure massage had degenerated into a system of quackery. In some of the cases reported the patients had been subjected to many operations under a wrong diagnosis, and he had seen several similar ones—for example, a case of simple retroversion which needed only a simple support for the cure, and a second in which cystic disease of the ovaries was the real cause, and the removal of them effected complete relief.—DR. EDIS, DR. FANCOURT BARNES, and DR. FENTON referred to the injurious effects of this method of treatment, more especially in cases of pelvic inflammation, which were frequently not recognized.—DR. GRIGG re-

ported several cases in which massage has been most beneficial in diseases of the liver, stomach, and in muscular affections; he knew nothing of it as applied to the pelvic viscera, but referred to some serious mistakes in its application.—The PRESIDENT said he did not share in the strong objections that had been taken to uterine massage. If, by such treatment (and he must say it had not been clearly described), a practitioner could cure his patients, it was right to adopt it. Were not the very same objections urged against the use of the speculum originally? If massage had been so abused (which he did not deny), it was probably because it had been attended with success.—DR. JONES, in reply, said he had never used massage in internal pelvic conditions, because he was afraid of the danger of such a course. He regretted the discussion had dealt with the abuse rather than the use of what was, in suitable cases, a most successful method of dealing with diseases that were otherwise exceedingly prolonged in duration and very intractable.

BOOK REVIEWS.

A MANUAL OF DISEASES OF THE NERVOUS SYSTEM. By W. R. GOWERS, M.D., F.R.C.P. American Edition, issued under the supervision of the author, and containing all the material of the two-volume English edition, with some additions and revisions. Three hundred and forty-one illustrations. Philadelphia: P. Blakiston, Son & Co.

This work of 1,356 pages is an extension of a work on the Diseases of the Spinal Cord and Nerves which has been for some months before the English part of the profession. The name of Dr. Gowers is too well known to need any introduction. It is not necessary to present the reader with a general plan of the work, as the title gives it sufficiently. The whole subject is handled in a masterly manner, and will not fail to give profit to those who are not abreast with the literature, and satisfaction to those who are. The reviewer is not acquainted with any book in the English language on the diseases of the Nervous System so complete and satisfactory.

It would seem, however, the general literature

relating to the chorda tympani has not been as thoroughly examined as we had a right to expect. In proof of this, the paragraph on taste (p. 651) has been compared with the extensive article by Dr. Ed. Schulte, of Berlin, translated by Isidore Furst, of New York, and published in the Archives of Otology, volume XV., p. 62. It is practically certain that the article referred to has escaped the author's notice, or some mention would have been made of it as well as of the works of Sapolini that Dr. Schulte refers to so extensively.

AN ELEMENTARY TREATISE ON HUMAN ANATOMY. By JOSEPH LEIDY, M.D., LL.D., Professor of Human and Comparative Anatomy and Zoology in the University of Pennsylvania, etc., etc. Second edition, rewritten, with four hundred and ninety-five illustrations. Pp. 950. 1889. Philadelphia: J. B. Lippincott Company. Chicago: W. T. Keener.

After the lapse of twenty-eight years, Professor Leidy has had issued a second edition of his work on human anatomy, revised and rewritten. In this work, as in his teaching of the subject, he has sought to simplify, and thus aid the student of anatomy in his efforts to secure a clear and practical knowledge of the subject instead of simply committing to memory names, some of which are known only by the names of persons. The substitution for such arbitrary names of some that are simple and expressive of the character of the part or of its function is a material aid to the student.

The work of Professor Leidy, either as a teacher or a writer, is always so well and so thoroughly done, that the work now presented needs no higher compliment than the statement that it is characterized by his usual thoroughness. In the dress in which the publishers have issued it, it is a welcome addition to one's library.

DIPHTHERIA: ITS NATURE AND TREATMENT.

By C. E. BILLINGTON, M.D., AND INTUBATION IN CROUP, AND OTHER ACUTE AND CHRONIC FORMS OF STENOSIS OF THE LARYNX. BY JOSEPH O'DWYER, M.D. Octavo, 326 pages. Price, muslin, \$2.50. New York: William Wood & Company.

The Author says in his preface "I have, however, endeavored to present a clear and succinct statement of those facts in existing knowledge which are most essential to the formation of an intelligent opinion as to its nature, and of those therapeutical principles and details, the comprehension and application of which will, as I believe, enable the physician to treat it most

successfully." The effort has been successful, and the profession is already aware of the good work done by the author in introducing the practice of intubation, with its beneficial results.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS.

The additional numbers for April, May and June have been issued. The APRIL number contains two papers, one "ON DIABETES, AND ITS CONNECTION WITH HEART DISEASE," by Dr. J. Mayer; and the other on "BLENNORRHEA OF THE SEXUAL ORGANS, AND ITS COMPLICATIONS," by Dr. E. Finger.

The MAY number, two papers also: "ON THE PREVENTIVE TREATMENT OF CALCULOUS DISEASE, AND THE USE OF SOLVENT REMEDIES," by Sir H. Thompson; and "SPRAINS: THEIR CONSEQUENCES AND TREATMENT," by Dr. C. W. M. Moulton.

The JUNE number contains a translation of Dr. A. Schreiber's work on "GENERAL ORTHOPEDICS, INCLUDING SURGICAL OPERATIONS," and an index for Volume II.

A MANUAL OF DISEASES OF THE EAR, FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE. By ALBERT H. BUCK, M.D., Clinical Professor of the Diseases of the Ear, in the College of Physicians and Surgeons, New York; Consulting Aural Surgeon, New York Eye and Ear Infirmary. 420 pages. Illustrated. Price, extra muslin, \$2.50. New York: William Wood & Company. 1889. Chicago: W. T. Keener.

The present volume is the result of a thorough revision of the author's "Diagnosis and Treatment of Ear Diseases" published in 1880. It is prepared with the thoroughness which characterizes all of the author's work. It is very profusely illustrated, and is a valuable addition to the text-books upon the subject.

A GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By ROBERT FARQUHARSON, M.P., M.D., Edin., etc., etc. Late Lecturer on Materia Medica, at St. Mary's Hospital Medical School, etc. Fourth American, from Fourth English Edition. Enlarged so as to include all preparations official in the U. S. Pharmacopœia, by Frank Woodbury, A.M., M.D., etc., etc. Philadelphia: Lea Brothers & Co. 1889. Chicago: A. C. McClurg & Co.

This new edition is an improvement on the previous editions, already well known to the medical profession.

The American editor has made in the appendix such additions as will give it additional value to American practitioners and students of medicine.

EXTRA-UTERINE PREGNANCY. A DISCUSSION REPRINTED FROM THE TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Vol. 1, 1888. With an appendix reviewing Mr. Lawson Tait's "Ectopic Gestation and Pelvic Hematocele." Price 75 cents. Pp. 65 and three plates. Philadelphia: William J. Dornan. 1889.

- I. *Its Pathology.* By Franklin Townsend, M.D.
- II. *Its Diagnosis.* By Joseph Price, M.D.
- III. *Its Treatment.* By E. E. Montgomery, M.D.
- IV. *Observations—Clinical, Pathological and Surgical.* By W. H. Wathen, M.D.
- V. *A Critique of its Management.* By J. M. Baldy, M.D.
- VI. *The Technique of the Operation.* By John B. Deaver, M.D.
- VII. *Its Management when the Fetus Survives Tubal Rupture and goes on to the Period of Viability.* By L. S. McMurtry, M.D.
- VIII. *Its Treatment (concluded).* By A. Vander Veer, M.D.

ELEMENTS OF HISTOLOGY. By E. KLEIN, M.D., F.R.S., Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital, London. Illustrated with one hundred and ninety-four engravings. New and enlarged edition. Pp. xii.—368. 1889. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co.

In this, the fourth edition of Klein's histology, issued as one of the *Manuals for Students of Medicine*, the author has brought the work down to the present date, and has sought to have it present the most recent advances made in our knowledge of histology. The illustrative cuts are numerous, and fairly well executed, on fair paper, not well bound.

A MANUAL OF DIETETICS FOR PHYSICIANS, MOTHERS AND NURSES. By W. B. PRITCHARD, M.D. New York: The Dietetic Publishing Company. Pp. 88. 1889.

This manual contains useful information covering various subjects regarding the welfare of human beings of all periods of life, in health as well as in disease.

Whilst most of what is said is, or ought to be, known to the physician, yet it is not known to the laity, and in the convenient and cheap form in which the book is presented to the public, it will no doubt find a ready sale, and serve a good purpose, for none know better than do physicians the lamentable amount of ignorance on

the part of people, generally, regarding the laws of health, and how it should be cared for. The perusal of this manual will furnish much useful information that may be advantageously applied.

HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. COMPILED FOR THE USE OF STUDENTS PREPARING FOR EXAMINATION. BY CUTHBERT BOWEN, M.D., B.A., Editor of "Notes on Practice." 8vo. Pp. vi-366. Philadelphia and London: F. A. Davis, Publisher. 1889.

This handbook was seemingly written expressly for those who do not otherwise enjoy adequate quiz facilities.

It is an epitome compiled in the form of a question and answer book.

If used by students strictly in accordance with the intention of the author, in connection with and supplementary to the regular textbooks, and not as a substitute therefor, the publication may serve a useful purpose.

THE BACTERIA IN ASIATIC CHOLERA. BY E. KLEIN, M.D., F.R.S. Pp. xv and 179, 12mo. London and New York: MacMillan & Co. 1889. Chicago: W. T. Keener. Price \$1.25.

The present volume is a reprint of some articles published in *The Practitioner* in 1886 and 1887. Contributions which have since been made to the knowledge of the subject are added to the book, and it thus represents the present available knowledge upon its subject. The author still does not believe that the comma bacillus of Koch is the cause of Asiatic cholera. His defense is temperate and thorough.

DISEASES AND INJURIES OF THE EAR: THEIR PREVENTION AND CURE. BY CHARLES HENRY BURNETT, A.M., M.D. Pp. 154. 12mo. Price \$1.00. Philadelphia: J. B. Lippincott Company. 1889. Chicago: A. C. McClurg and Company.

This little book is one of the "Practical Lessons in Nursing" issued by the publishers. It is intended for use by non-professional readers. The intention to put into the hands of laymen intelligent but untechnical advice on this subject is of course good, and the author's name is a sufficient guarantee.

PHYSIOLOGICAL NOTES IN PRIMARY EDUCATION AND THE STUDY OF LANGUAGE. BY MARY PUTNAM JACOB, M.D. Pp. 120, 12mo. New York: G. P. Putnam's Sons. 1889.

The chapters in this book are: An Experiment in Primary Education (2); The Flower

and the Leaf: The Place for the Study of Language in a Curriculum of Education. Those who are familiar with the style of the author will find their admiration increased by reading this her last contribution.

DIABETES: ITS CAUSE AND PERMANENT CURE.

By EMIL SCHNEE, M.D. Translated by R. L. TAFEL, A.M., Ph.D. Pp. 215. Philadelphia: P. Blakiston, Son & Co. 1889. Chicago: W. T. Keener.

This book is written by an enthusiast whose statements will be read with lively interest by those interested in the subject. He claims to have thoroughly reviewed the literature of diabetes, and his unequivocal statement that the disease is curable will attract attention. The author's residence at Carlsbad and Monaco has given him exceptional opportunities for the observation of the disease which he discusses.

EXAMINATION OF WATER FOR SANITARY AND

TECHNICAL PURPOSES. By HENRY LEFFMANN, M.D., Ph.D., AND WILLIAM BEAM, M.A. Pp. vi., and 106. 12mo. Philadelphia: P. Blakiston, Son and Company. 1889. Chicago: W. T. Keener.

The title indicates the scope of this volume. Microscopical examination of water-sediments is not treated, and bacteriological examinations are not described, since they call for skill not usually possessed by those for whose use the book is intended.

THE DIAGNOSIS AND TREATMENT OF EXTRA-

UTERINE PREGNANCY. By JOHN STRAHAN, M.D., M.Ch., M.A.O. Pp. 106. Philadelphia: P. Blakiston, Son and Company. 1889. Chicago: W. T. Keener.

This is the William F. Jenks Prize Essay of the College of Physicians of Philadelphia. The arrangement of the essay is into two parts. Part I. The Diagnosis, and Part II. The Treatment of Intra-Uterine Pregnancy. The book is furnished with an Index and Bibliography.

MASSO-THERAPEUTICS, OR MASSAGE AS A

MODE OF TREATMENT. By WILLIAM MURRELL, M.D., F.R.C.P. Fourth edition. 12mo. Pp. vii and 236. Price \$1.50. Philadelphia: P. Blakiston, Son & Co. 1889. Chicago: W. T. Keener.

This is a book which is a good one in spite of its faults. It contains relatively much needless matter, but also gives a valuable explanation of the therapeutic uses and limitations of the method which it describes.

BOOKS RECEIVED.

The Operations of Surgery. By W. H. A. Jacobson, F.R.C.S.

Saint Bartholomew's Hospital Reports. Vol. XXXIX, 1888.

Reference Hand-book of the Medical Sciences. Vol. VII.

Transactions of the American Surgical Association. Vol. VI. J. Ewing Mears, Editor.

Rectal and Anal Surgery. By E. and E. W. Andrews.

Intestinal Surgery. By N. Senn, M.D., Ph.D.

A Compendium of Dentistry. By Julius Parreidt. Translated by Louis Ottofy, D.D.S.

Clinical Lectures on Diseases of the Urinary Organs. By Sir Henry Thompson.

Text-book of Medical Jurisprudence and Toxicology. By John J. Reese, M.D.

Hand-book of the Diagnosis and Treatment of Skin Diseases. By A. Van Harlingen, M.D.

Œuvres Complètes. Vol. V. de J. M. Charcot.

Transactions of the American Ophthalmological Society. Twenty-fourth Annual Meeting, 1888.

Hand-book of Physiology. By W. M. Baker, and V. D. Harris.

The Psychic Life of Micro-Organisms. By Alfred Binet. Translated by Thomas McCormack.

Prompt Aid to the Injured. By Alvah H. Doty, M.D.

A Hand-book of Therapeutics. By Sidney Ringer, M.D.

Masso-therapeutics, or Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P.

Surgical Bacteriology. By Nicholas Senn, M.D.

Lectures on the Errors of Refraction and their Correction with Glasses. By Francis Valk, M.D.

The Insane in Foreign Countries. By William P. Letchworth.

Morrow's Atlas of Venereal and Skin Diseases. Fasciuli 10—11—12.

The Student's Text-Book of the Practice of Medicine. By Angel Money, M.D.

A Clinical Atlas of Venereal and Skin Diseases. Parts V. and VI. By R. W. Taylor, A.M., M.D.

An Elementary Treatise on Human Anatomy. By Joseph Leidy, M.D., LL.D.

Diseases of the Ear: Their Prevention and Cure. By C. H. Burnett, A.M., M.D.

Transactions of the Forty-Third Meeting of the Ohio State Medical Society, 1888.

A Manual of Diseases of the Ear. By Albert H. Buck, M.D.

Diphtheria: Its Nature and Treatment. By C. E. Billington, M.D.; and Intubation in Croup and other Acute and Chronic Forms of Stenosis of the Larynx. By Joseph O'Dwyer, M.D.

The Diagnosis and Treatment of Extra-Uterine Pregnancy. By John Strahan, M.D., etc.

Diabetes: Its Cause and Permanent Cure. Emil Schnée, M.D.

Physiological Notes on Primary Education and the Study of Language. By Mary Putnam Jacobi.

Examination of Water for Sanitary and Technical Purposes. Henry Lefferman, M.D., Ph. D., and William Beam, M.D.

The Bacteria in Asiatic Cholera. By E. Klein, M.D., F.R.S.

Extra-Uterine Pregnancy. A Discussion.

On the Binoocular Metamorphosis Produced by Correcting Glasses. By J. A. Lippincott, M.D.

The Galvanic Treatment of Fibro-Myomata. By A. H. Buckmaster, M.D.

Tuberculosis of the Sacro-Iliac Joint. By Weller VanHook, M.D.

Electricity in Diseases of Women. By G. Betton Massey, M.D.

Affections of the Mediastinum. By H. A. Hare, B.Sc., M.D.

Hand-book of the Diagnosis and Treatment of Diseases of the Throat and Nose and Naso-Pharynx. By Carl Seiler, M.D.

The Year-Book of Treatment for 1889.

Sixteenth Annual Report of the Secretary of the State Board of Health of Michigan. 1888.

Second Biennial Report of the North Carolina Board of Health, 1889.

MISCELLANY.

Digestive Ferments in the Intestinal Disorders of Infants.—It seems somewhat strange, with our present knowledge of digestive ferments, that the application of pancreatin and pepsin in the diarrhœas and intestinal disorders of children, especially those arising from inanition, is not more general.

We believe that an extension of the use of these products in such diseases would not only prove advantageous to the prac-

titioner, but save the lives of many little ones that otherwise would be doomed.

No practitioner, possessed of a modicum of therapeutic and physiological knowledge, will be found to admit that chalk mixtures, opiates, astringents, etc., meet fairly the indications in these cases. The ant-acids act merely mechanically, soothing the irritated mucous coat of stomach and intestines; the action of opiates which are especially dangerous to administer to nurslings, is uncertain, for it is impossible to gauge their use so as to attain the exact limit essential to intestinal anæsthesia and arrest of peristaltic action, without narcosis; and astringents, while repressing secretion, at the same time retain and favor the absorption of ptomaines and other poisonous products which have provoked the flux—they limit the defections at the expense of non elimination of the toxic.

In such cases, and in all those of enfeebled digestion and in which the food remains undigested and fermenting in the stomach and intestines, pepsin and pancreatin and peptonized foods, afford us pure and simple physiological remedies, whose administration is attended with no dangers; and their employment does not preclude the use of cathartics, or administration of antiseptics that are anti-toxic to ptomaines.

Recently we have obtained the best results from such treatment, though it must be admitted in cases of unusual gravity, when collapse threatens, that coto and wild yam are sometimes of value to check the flux, the digestive ferment following to secure proper digestion and nutrition. So long ago as 1856, Joulin and Corvisart (*Rev. Med. Chir. de Paris*) outlined this mode of treatment, and claimed the happiest results therefrom; and more recently it was advocated by Trousseau, Pidoux, Barthez, and Rilliet of France, and Ellis and Davidson of the United Kingdom. Later still, Dr. J. Milner Fothergill (*Hand-book of Practice*, p. 40) remarks of pepsin:

"Its utility in the treatment of imperfect digestion, and diarrhoea in children, is certain." Prof. J. Lewis Smith (Prof. Dis. Children, Bellevue Hosp. Med. Coll.—Archiv. Pediatric, 1866, p. 518) expresses exactly the same opinion. Prof. Frederick John Farre (Parieras Mat. Med. and Therap., p. 943) commends pepsin "*very highly in cholera infantum and summer complaints of children.*" And Bartholow declares (Mat. Med. and Therap., p. 68): "Very great success has been attained in the treatment of the *diarrhoea of infants* by pepsin. * * * The motions will be quickly changed in character, and the nutrition of the child improved, by giving it immediately after each supply of food." He further recommends (Naphey's Medical Therapeutics, p. 395) the employment of peptonized milk or milk gruel for food in these cases, in which he is supported by Wilson Fox (Diseases of Children, ii, p. 821), who considers "pepsin invaluable in gastralgia and all irritative states of intestinal and stomach mucous membranes."

With such evidence, and with the physiological knowledge that at present obtains, it is evident the digestive ferments are too little studied or employed. Yet we must admit there have been good grounds for such neglect, in that the pepsins upon the market, for the most part, have been untrustworthy, and with no definite guide for testing, that of the U. S. P. being of a very low standard. These objections no longer obtain, however, for manufacturers have been led to provide accurate tests, and now disseminate the same in their literature. Messrs. Parke, Davis & Co. issue a work on Digestive Ferments that is accurate. They have placed upon the market a new pepsin of high digestive power, and possessing the exceptional advantages of being free from ptomaines, and readily soluble. The standard of pepsin has been raised by the better manufacturers, and the practitioner is able now to secure a preparation suited to his needs.

The Mental State at the Approach of Death.—Popular tradition has long asserted that just before a drowning person dies he has a kind of visionary retrospect of the principal events of his past life. It is now believed that the same kind of retrospect occurs in other cases than those of drowning. In a recent communication to the Société de Biologie, M. Féré gave some interesting details bearing on the mental condition of the dying. In some cases the panoramic reproduction comprises all the events of one's existence, while in others it only bears on isolated and insignificant details. In epileptic subjects this form of instantaneous reminiscence is also occasionally observed, and this constitutes a sort of intellectual *aura*. The condition in both cases would seem to point to their being due to some sudden alteration in the cerebral circulation, but M. Féré mentions two cases which appear to show that the phenomenon is possibly of frequent occurrence in death under any circumstances. In one case the patient was succumbing to consumption consequent on spinal disease. Consciousness was already lost when, under the influence of the subcutaneous injection of two grammes of ether, the dying man raised his head and talked with great rapidity in Flemish, which nobody near could understand. He became impatient and made signs that he wished to write, and on the necessary implements being brought to him, he wrote several lines in the same language. The curious part of it is that the man, though born near Antwerp, had lived in Paris for many years, and he was supposed to have forgotten Flemish altogether. The writing alluded to a debt of twelve shillings contracted twenty years before, and which, as was subsequently ascertained, was still unpaid. The other case was that of an ataxic patient also dying of phthisis. He had lost consciousness, and the pulse was hardly perceptible, when, after an injection of ether, he turned to his wife and ex-

claimed, "You won't find the pin, for the floor has been replaced;" an allusion to a trivial incident which had happened eighteen years before. Similar occurrences are by no means rare, and it would seem that the reminiscence is usual at death, and that its expression is facilitated by artificial stimulation.—*Press and Circular*.

Rush Monument Committee.—The Rush Monument Committee will meet in Right Gallery Room at Music Hall, Newport, Rhode Island, on Tuesday, June 25th, at 1 p. m., or immediately after adjournment of the Morning Session of the American Medical Association.

The attendance of others interested in the project is invited.

Collections and subscriptions should be forwarded to the treasurer, Dr. Joseph M. Toner, 615 Louisiana Avenue, Washington, D. C., before June 15th.

ALBERT L. GIBON, M.D.,

Chairman Rush Monument Committee.
New York, May 25, 1889.

Journal of the American Medical Association.—The business manager of the JOURNAL of the ASSOCIATION has issued an extra edition of seventy-five thousand copies of THE JOURNAL, which contains a carefully prepared report of the requirements of the various medical colleges of the United States and Canada, compiled by Dr. W. G. Eggleston, formerly assistant editor of THE JOURNAL.

The additional work involved in issuing this large edition has been considerable, and it is to be hoped that it will be the means of advancing the interests of the Association and of its official organ, and thus reward the business manager for his faithful efforts to serve both.

Salt in Milk for Children.—Dr. A. Jacobs (*Arch. of Ped.*) says that the addition of chloride of sodium prevents the solid coagulation of milk by either rennet or gastric juice. The cow's milk ought never to be given without table salt, and the latter ought to be added to women's milk when it behaves like cow's milk in regard to solid curdling and its consequent indigestibility. Habitual constipation of children is influenced beneficially, since not only is the food made more digestible, but the alimentary secretions, both serous and glandular, are made more effective by its presence.

A New Professorship of Bacteriology.—A chair of Bacteriology has recently been established in the old University of Bologna, Italy, and Signorina Giusppina Cattani has been appointed to the chair, and delivered her introductory lecture on *Bacteriology in its Relation to Modern Pathology*.

She has been assistant to the Bologna Pathological Institute for the last five years.

American Public Health Association.—The seventh annual meeting of the American Public Health Association will be held at Brooklyn, N. Y., on Tuesday, Wednesday, Thursday, and Friday, October 22, 23, 24, 25, 1889. H. A. Johnson, M.D., LL.D., of Chicago, is President of the Association, and Irving A. Watson, of Concord, N. H., is Secretary.

Post-Graduate Course at Edinburgh, Scotland.—A course of post-graduate instruction in the different departments of medicine will be given at Edinburgh during the latter end of September and beginning of October of the present year, similar to the courses already carried on in several past autumns.

